

BNWL-1727-ADD  
Special  
Distribution

ENVIRONMENTAL SURVEILLANCE  
AT HANFORD FOR CY-1972  
DATA



Battelle

Environmental Monitoring Services

APRIL 1973

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BNWL-1727-ADD

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SPECIAL DISTRIBUTION

ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY-1972

by

P. E. Bramson and J. P. Corley  
Occupational and Environmental Safety Department

May 1973

BATTELLE  
PACIFIC NORTHWEST LABORATORIES  
RICHLAND, WASHINGTON 99352

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### Preface

This supplemental report is a compilation of results obtained from both analyses of environmental samples and from radiological measurements made in the Hanford environs during 1972. The significance of these data is discussed in the parent report (BNWL-1727).

The term "analytical limit" as used in this report is the concentration at which the laboratory can measure the radionuclide with a precision of  $\pm 100\%$  at the 90% confidence level. The detection limit for a specific radionuclide varies with sample type, sample size, counting time, and the amounts of interfering radionuclides present. The "analytical limits" were chosen to represent upper bounds to these fluctuating detection limits.

The following rule has been applied for determining statistical detection levels for averaged data:

$$A.L._{avg.} = \frac{A.L._i}{\sqrt{n}}$$

The laboratory analytical level is divided by the square root of the number of averaged results to obtain the estimated analytical level for the average for the same confidence level and precision. This rule is applicable only when actual net counting data is available, as it is for most routine radioanalyses.

Air and sanitary water quality data included in this data tabulation were obtained and provided by M. J. Schultz, of the Hanford Environmental Health Foundation, Richland, Washington. The latter organization conducts the routine surveillance program of this kind at the Hanford plant for the Atomic Energy Commission. The radioanalyses documented here were performed by the U.S. Testing Company.

May 1973

P.E. Bramson

J.P. Corley

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APPENDIX A



## APPENDIX A

TABLE 1  
CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT VERNITA  
(MONTHLY COMPOSITES OF WEEKLY GRAB SAMPLES) - 1972

| <u>Date</u>                                 | <u>Alpha</u> | <u><math>^{3}\text{H}</math></u> | <u><math>^{46}\text{Sc}</math></u> | <u><math>^{51}\text{Cr}</math></u> | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs-137m}</math></u> | <u><math>^{239}\text{Pu}</math></u> |
|---|--------------|----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|--|-------------------------------------|
| Units of $10^{-9} \mu\text{Ci/ml}$ of Water |              |                                  |                                    |                                    |                                    |                                    |                                    |                                    |  |                                     |
| Analytical Limit                            | 0.3          | 220                              | 25.                                | 20.                                | 15.                                | 2.0                                | 0.45                               | 1.0                                | 3.0                                      | 0.01                                |
| 1/25  | 0.51         | *                                |                                    |                                    |                                    |                                    | 0.48                               |                                    |  | *                                   |
| 2/22  | 0.69         | 1400                             |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 3/21  | 0.74         | 360.                             |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 4/25  | 0.57         | *                                |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 5/23  | 0.51         | *                                |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 6/27  | 0.40         | *                                |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 7/25  | 0.45         | *                                |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 8/29  | 0.30         | *                                |                                    |                                    |                                    |                                    | *                                  |                                    |  |                                     |
| 9/26  | 0.46         | *                                |                                    |                                    |                                    |                                    | 2.0                                |                                    |  |                                     |
| 10/31                                       | 0.51         | *                                |                                    |                                    |                                    | 20.                                | *                                  |                                    |  |                                     |
| 11/28                                       | 0.64         | *                                |                                    |                                    | *                                  | *                                  | *                                  |                                    |  |                                     |
| 12/22                                       | 0.64         | *                                |                                    |                                    | *                                  | *                                  | *                                  |                                    |  |                                     |
| Aug.-Dec.<br>Average                        |              | *0.34                            | *6.6                               | *0.12                              | *0.52                              |                                    |                                    | 1.2                                |  |                                     |
| Annual<br>Average                           | 0.54         | 110.                             |                                    |                                    |                                    |                                    | 0.50                               |                                    |  | *0.27                               |
|   |              |                                  |                                    |                                    |                                    |                                    |                                    |                                    |  | 0.008                               |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

## APPENDIX A

TABLE 2

CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND  
(CUMULATIVE SAMPLES) - 1972

| Date             | <u>46</u> <sub>Sc</sub> | <u>51</u> <sub>Cr</sub> | <u>60</u> <sub>Co</sub> | <u>65</u> <sub>Zn</sub> | <u>131</u> <sub>I</sub> | <u>137</u> <sub>Cs</sub> - <u>137</u> <sup>m</sup> <sub>Ba</sub> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|
| Analytical Limit | 25.                     | 300.                    | 15.                     | 35.                     | 6.0                     | 20.  |
| 12/28-1/4        | *                       | *                       | *                       | *                       | *                       | *  |
| 1/4-1/11         | *                       | *                       | *                       | *                       | *                       | *  |
| 1/11-1/18        | *                       | *                       | *                       | 53.                     |                         | *  |
| 1/18-1/25        | *                       | 590                     | *                       | *                       | *                       | *  |
| 1/25-2/1         | *                       | 620                     | *                       | *                       |                         | *  |
| 2/1-2/8          | *                       | 300                     | *                       | *                       | *                       | *  |
| 2/8-2/15         | *                       | *                       | *                       | *                       |                         | *  |
| 2/15-2/22        | *                       | *                       | *                       | *                       | 6.4                     | *  |
| 2/22-2/29        | *                       | *                       | *                       | *                       |                         | *  |
| 2/29-3/7         | *                       | *                       | *                       | *                       | *                       | *  |
| 3/7-3/14         | *                       | *                       | *                       | *                       |                         | *  |
| 3/14-3/21        | *                       | *                       | *                       | *                       |                         | *  |
| 3/21-3/28        | *                       | *                       | *                       | *                       | *                       | *  |
| 3/28-4/4         | *                       | *                       | *                       | *                       |                         | *  |
| 4/4-4/11         | *                       | 700                     | 33.                     | *                       |                         | 23.  |
| 4/11-4/18        | *                       | *                       | *                       | *                       | *                       | *  |
| 4/18-4/25        | *                       | *                       | 20.                     | *                       |                         | *  |
| 4/25-5/1         | *                       | 620                     | *                       | 50.                     | *                       | 25.  |
| 5/2-5/9          | *                       | *                       | *                       | *                       |                         | *  |
| 5/9-5/16         | *                       | *                       | *                       | *                       |                         | *  |
| 5/16-5/23        | *                       | *                       | *                       | *                       | *                       | *  |
| 5/23-5/30        | *                       | *                       | *                       | *                       | *                       | *  |
| 5/30-6/6         | *                       | 370                     | *                       | *                       |                         | *  |
| 6/6-6/13         | *                       | *                       | *                       | *                       | *                       | 23.  |
| 6/13-6/20        | *                       | *                       | *                       | *                       |                         | *  |
| 6/20-6/27        | *                       | *                       | *                       | *                       | *                       | *  |
| 6/27-7/5         | *                       | *                       | *                       | *                       |                         | *  |
| 7/5-7/11         | *                       | *                       | *                       | *                       | *                       | *  |
| 7/11-7/18        | *                       | *                       | *                       | 49.                     |                         | *  |
| 7/18-7/25        | *                       | *                       | *                       | *                       | *                       | *  |
| 7/25-8/1         | *                       | *                       | *                       | *                       |                         | *  |
| 8/1-8/8          | *                       | *                       | *                       | *                       | *                       | *  |
| 8/8-8/15         | *                       | *                       | *                       | *                       |                         | *  |
| 8/15-8/22        | *                       | *                       | *                       | *                       | *                       | *  |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

## APPENDIX A

TABLE 2 (Continued)

CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND  
(CUMULATIVE SAMPLES) - 1972

| Date             | <u>46</u> <sub>Sc</sub> | <u>51</u> <sub>Cr</sub> | <u>60</u> <sub>Co</sub> | <u>65</u> <sub>Zn</sub> | <u>131</u> <sub>I</sub> | <u>137</u> <sub>Cs</sub> - <u>137</u> <sup>m</sup> <sub>Ba</sub> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|
| Analytical Limit | 25.                     | 300                     | 15.                     | 35.                     | 6.0                     | 20.  |
| 8/22-8/29        | *                       | *                       | *                       | *                       |                         | *  |
| 8/29-9/5         | *                       | *                       | *                       | *                       | *                       | *  |
| 9/5-9/12         | *                       | *                       | *                       | *                       |                         | *  |
| 9/12-9/19        | *                       | *                       | *                       | *                       |                         | *  |
| 9/19-9/26        | *                       | *                       | *                       | *                       | *                       | *  |
| 9/26-10/3        | *                       | *                       | *                       | *                       | *                       | *  |
| 10/3-10/10       | *                       | *                       | *                       | *                       |                         | *  |
| 10/10-10/17      | *                       | *                       | *                       | *                       | *                       | *  |
| 10/17-10/24      | *                       | *                       | *                       | *                       |                         | *  |
| 10/24-10/31      | *                       | *                       | *                       | *                       | *                       | *  |
| 10/31-11/7       | *                       | *                       | *                       | *                       |                         | *  |
| 11/7-11/14       | *                       | *                       | 42.                     | 60.                     | *                       | *  |
| 11/14-11/21      | *                       | *                       | *                       | *                       |                         | *  |
| 11/21-11/28      | *                       | *                       | *                       | *                       | *                       | *  |
| 11/28-12/5       | *                       | *                       | *                       | *                       |                         | *  |
| 12/5-12/12       | *                       | *                       | 31.                     | *                       | *                       | *  |
| 12/12-12/19      | *                       | *                       | *                       | *                       |                         | *  |
| 12/19-12/22      | *                       | *                       | *                       | *                       | *                       | *  |
| 12/22-1/2        | *                       | *                       | *                       | *                       |                         |  |
| Annual Average   | *3.7                    | 94.                     | *3.9                    | *6.1                    | *1.0                    | *2.4   |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

## APPENDIX A

TABLE 3

CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER AT RICHLAND  
 (MONTHLY COMPOSITE OF WEEKLY CUMULATIVE SAMPLES) - 1972

Units of  $10^{-9}$   $\mu\text{Ci}/\text{ml}$

| Date             | Alpha | $^{3}\text{H}$ | $^{32}\text{P}$ | $^{65}\text{Zn}$ | $^{90}\text{Sr}$ | $^{137}\text{Cs}-^{137}\text{mBa}$ | $^{239}\text{Pu}$ |
|------------------|-------|----------------|-----------------|------------------|------------------|------------------------------------|-------------------|
| Analytical Limit | 0.3   | 220            | 6.0             | 2.0              | 0.5              | 3.0                                | 0.01              |
| 12/28-1/25       | 0.92  | 1300           | *               |                  | 0.55             |                                    |                   |
| 1/25-2/22        | 0.90  | *              | *               | *                | *                | *                                  | *                 |
| 2/22-3/21        | 0.92  | *              | *               |                  | *                |                                    |                   |
| 3/21-4/25        | 0.56  | *              | *               |                  | *                |                                    |                   |
| 4/25-5/23        | 0.58  | *              | *               | 2.0              | *                | *                                  | 0.06              |
| 5/23-6/27        | 0.48  | *              | *               |                  | *                |                                    |                   |
| 6/27-7/25        | 0.56  | *              | *               |                  | *                |                                    |                   |
| 7/25-8/29        | 0.55  | 220            | *               | *                | *                | *                                  | *                 |
| 8/29-9/26        | 0.79  | *              | *               | *                | *                | *                                  |                   |
| 9/26-10/31       | 0.60  | *              | *               |                  | *                | *                                  |                   |
| 10/31-11/28      | 0.64  | *              | *               | *                | *                | *                                  | *                 |
| 11/28-12/22      | 0.58  | *              | *               |                  | *                | *                                  |                   |
| Annual Average   | 0.67  | 110            | *0.30           | *0.43            | 0.35             | *0.31                              | 0.02              |

\* Result was less than the analytical limit shown.  
 No entry indicates no specific analysis was made.

APPENDIX A

TABLE 4

CONCENTRATIONS OF RADIONUCLIDES IN THE COLUMBIA RIVER  
AT BONNEVILLE DAM  
(MONTHLY COMPOSITE OF WEEKLY CUMULATIVE SAMPLES) - 1972

Units of  $10^{-9}$   $\mu\text{Ci}/\text{ml}$

| Analytical Limit | <u><math>^{46}\text{Sc}</math></u> | <u><math>^{65}\text{Zn}</math></u> |
|------------------|------------------------------------|------------------------------------|
| 12/28-1/25       | *                                  | *                                  |
| 1/25-2/29        | *                                  | *                                  |
| 2/29-3/28        | *                                  | *                                  |
| 3/28-4/25        | *                                  | *                                  |
| 4/25-5/29        | *                                  | *                                  |
| 5/29-6/26        | *                                  | *                                  |
| 7/31-8/28        | *                                  | *                                  |
| 8/28-9/25        | *                                  | 11.                                |
| 9/25-10/30       | *                                  | *                                  |
| 10/30-11/27      | *                                  | *                                  |
| 11/27-12/25      | *                                  | *                                  |
| Annual Average   | *0.26                              | *1.7                               |

## APPENDIX A

TABLE 5

ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES  
IN THE COLUMBIA RIVER WATER AT RICHLAND  
(CUMULATIVE SAMPLES) - 1972

| Date      | Average Ci/day | $^{46}\text{Sc}$ | $^{51}\text{Cr}$ | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{131}\text{I}$ |
|-----------|----------------|------------------|------------------|------------------|------------------|------------------|
| 12/28-1/4 |                | * 0.10           | * 0              | * 0              | * 3.2            | *1.6             |
| 1/4-1/11  |                | * 0              | *24              | * 0              | * 0.07           | *0.04            |
| 1/11-1/18 |                | * 0.16           | * 0              | * 0              | 11.              |                  |
| 1/18-1/25 |                | * 0.07           | 110              | * 0              | * 0.03           | *0.78            |
| 1/25-2/1  |                | * 4.3            | 154              | * 0.11           | * 3.8            |                  |
| 2/1-2/8   |                | * 2.5            | 75               | * 0              | * 3.6            | *0.21            |
| 2/8-2/15  |                | * 0.08           | * 0              | * 0              | * 0.03           |                  |
| 2/15-2/22 |                | * 0              | * 0              | * 3.4            | * 0              | 1.7              |
| 2/22-2/29 |                | * 0.06           | * 0              | * 0.12           | * 0              |                  |
| 2/29-3/7  |                | * 2.2            | * 0              | * 3.7            | * 0              | *0.8             |
| 3/7-3/14  |                | * 0              | * 0.14           | * 1.5            | * 0              |                  |
| 3/14-3/21 |                | 1.6              | 29.              | * 0              | * 2.3            |                  |
| 3/21-3/28 |                | * 0.06           | *15              | * 0              | * 0.02           | *0.72            |
| 3/28-4/4  |                | * 0              | * 0              | * 4.4            | * 0              |                  |
| 4/4-4/11  |                | * 7.8            | 340              | 16.              | 11.              |                  |
| 4/11-4/18 |                | * 0.11           | * 0              | * 0.22           | * 0              | *0.23            |
| 4/18-4/25 |                | * 0              | *18              | 6.1              | * 0              |                  |
| 4/25-5/1  |                | * 3.7            | 170              | * 0              | 14.              | *0.38            |
| 5/2-5/9   |                | * 0.09           | * 0              | * 0.17           | * 0              |                  |
| 5/9-5/16  |                | * 5.9            | * 0              | * 0              | * 0              |                  |
| 5/16-5/23 |                | *12.             | * 0              | * 0              | * 0              | *1.0             |
| 5/23-5/30 |                | * 9.7            | * 0              | * 1.7            | * 0              | *0.38            |
| 5/30-6/6  |                | * 2.4            | 310              | * 0              | *19.             |                  |
| 6/6-6/13  |                | * 7.9            | * 0              | * 8.6            | * 0              | *0.16            |
| 6/13-6/20 |                | * 0              | *36.             | * 3.3            | * 0              |                  |
| 6/20-6/27 |                | *15.3            | * 0              | * 0.45           | * 0              | *0               |
| 6/27-7/5  |                | * 0.35           | *20.             | * 0              | * 0.13           |                  |
| 7/5-7/11  |                | * 0.25           | *78.             | * 0              | * 0.10           | 0.64             |
| 7/11-7/18 |                | * 0.20           | *45.             | * 0              | 28.              |                  |
| 7/18-7/25 |                | * 0.19           | * 0              | * 0              | * 0.07           | *0.12            |
| 7/25-8/1  |                | * 0.16           | *110             | * 0              | * 9.9            |                  |
| 8/1-8/8   |                | * 0.16           | * 0.48           | * 0              | * 0.06           | *0.21            |
| 8/8-8/15  |                | * 0.16           | * 0.48           | * 0              | * 0.06           |                  |
| 8/15-8/22 |                | * 0.13           | * 0.38           | * 0              | * 0.05           | *0.10            |
| 8/22-8/29 |                | * 0.11           | * 0.34           | * 0              | * 0.04           |                  |
| 8/29-9/5  |                | * 0.11           | * 0.32           | * 0              | * 0.04           | *0.14            |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

APPENDIX A

TABLE 5 (Continued)

ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES  
IN THE COLUMBIA RIVER WATER AT RICHLAND  
(CUMULATIVE SAMPLES) - 1972

| <u>Date</u>    | Average Ci/day         |                        |                        |                        |                        |
|----------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|                | <u><sup>46</sup>Sc</u> | <u><sup>51</sup>Cr</u> | <u><sup>60</sup>Co</u> | <u><sup>65</sup>Zn</u> | <u><sup>131</sup>I</u> |
| 9/5-9/12       | *0.10                  | *70.                   | *0                     | * 0                    |                        |
| 9/12-9/19      | *0.09                  | * 0.26                 | *0                     | * 0.03                 |                        |
| 9/19-9/26      | *0.08                  | *54.                   | *0                     | * 2.6                  | *0.10                  |
| 9/26-10/3      | *0.08                  | * 0.24                 | *0                     | * 0.03                 | *0.09                  |
| 10/3-10/10     | *0.04                  | * 0.19                 | *0.08                  | * 0                    |                        |
| 10/10-10/17    | *0.07                  | * 4.5                  | *0                     | * 0.03                 | 0.13                   |
| 10/17-10/24    | *0.07                  | * 0.21                 | *0                     | * 0.03                 |                        |
| 10/24-10/31    | *2.5                   | *33.                   | *0                     | * 3.3                  | *0.09                  |
| 10/31-11/7     | *0.46                  | * 0                    | *1.3                   | * 0                    |                        |
| 11/7-11/14     | *0.98                  | *12.                   | 8.1                    | 12.                    | *0.11                  |
| 11/14-11/21    | *3.4                   | * 0                    | *2.9                   | * 0                    |                        |
| 11/21-11/28    | *4.5                   | *22.                   | *0                     | * 1.2                  | *0.10                  |
| 11/28-12/5     | *0                     | * 0                    | *2.0                   | * 1.4                  |                        |
| 12/5-12/12     | *0                     | *80.                   | 9.9                    | * 0                    | 0.43                   |
| 12/12-12/19    | *1.2                   | * 0                    | *0                     | * 4.2                  |                        |
| 12/19-12/22    | *0                     | *20.                   | *0.11                  | * 1.4                  | *0.10                  |
| 12/22-1/2      | *0                     | * 0                    | *0.89                  | * 5.8                  |                        |
| Annual Average | *1.7                   | *36.                   | *1.5                   | * 3.1                  | *0.35                  |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

## APPENDIX A

TABLE 6

ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES  
 IN THE COLUMBIA RIVER AT RICHLAND  
(MONTHLY COMPOSITE CUMULATIVE SAMPLES) - 1972

| <u>Date</u>    | <u>3<sub>H</sub></u> | <u>32<sub>P</sub></u> | <u>65<sub>Zn</sub></u> | <u>90<sub>Sr</sub></u> | <u>137<sub>Cs</sub></u> | <u>Alpha</u> |
|----------------|----------------------|-----------------------|------------------------|------------------------|-------------------------|--------------|
| 12/28-1/25     | 290                  | *0.32                 |                        | 0.12                   |                         | 0.21         |
| 1/25-2/22      | *54.                 | *0.35                 | *0                     | *0.13                  | *0                      | 0.22         |
| 2/22-3/21      | * 0                  | *0.37                 |                        | 0.14                   |                         | 0.27         |
| 3/21-4/25      | * 0                  | *0.10                 |                        | 0.09                   |                         | 0.25         |
| 4/25-5/23      | * 7.3                | *0                    | 0.92                   | *0.12                  | *0.48                   | 0.26         |
| 5/23-6/27      | * 0                  | *0.58                 |                        | 0.11                   |                         | 0.43         |
| 6/27-7/25      | * 0                  | *0                    |                        | *0.20                  |                         | 0.38         |
| 7/25-8/29      | 89.                  | *0.16                 | *0.003                 | 0.12                   | *0.003                  | 0.22         |
| 8/29-9/26      | * 0                  | *0.18                 | *0.17                  | *0.10                  | *0.15                   | 0.19         |
| 9/26-10/31     | *14.                 | *0.07                 |                        | 0.08                   | *0                      | 0.12         |
| 10/31-11/28    | *31.                 | *0.006                | *0                     | 0.04                   | *0.002                  | 0.13         |
| 11/28-12-22    | * 0                  |                       |                        | *0.14                  | *0.13                   | 0.16         |
| Annual Average | *40.                 | 0.19                  | *0.22                  | *0.12                  | *0.11                   | 0.24         |

\* Result was less than the analytical limit shown.

APPENDIX A

TABLE 7

ESTIMATED RATE OF TRANSPORT OF RADIONUCLIDES IN THE  
COLUMBIA RIVER WATER AT BONNEVILLE DAM  
(MONTHLY COMPOSITE CUMULATIVE SAMPLES) - 1972

| <u>Date</u>    | Average Ci/day | <u><sup>46</sup>Sc</u> | <u><sup>65</sup>Zn</u> |
|----------------|----------------|------------------------|------------------------|
| 12/28-1/25     |                | *0.32                  | *0                     |
| 1/25-2/29      |                | 0.03                   | 1.0                    |
| 2/29-3/28      |                | *0                     | *0                     |
| 3/28-4/25      |                | *0.35                  | *5.3                   |
| 4/25-5/29      |                | *0.02                  | *2.0                   |
| 5/29-6/26      |                | *0.04                  | *0.01                  |
| 7/31-8/28      |                | *0.01                  | *0.003                 |
| 8/28-9/25      |                | *0.48                  | 3.7                    |
| 9/25-10/30     |                | *0.42                  | *0                     |
| 10/30-11/27    |                | *0                     | *0                     |
| 11/27-12/25    |                | *0                     | *0                     |
| Annual Average |                | *0.15                  | *1.1                   |

\* Result was less than the analytical limit shown.

APPENDIX A

TABLE 8

BETA ACTIVITY IN THE COLUMBIA RIVER AT RICHLAND  
(CUMULATIVE SAMPLES) - 1972

| Units of counts/minute/milliliter |       |             |        |
|-----------------------------------|-------|-------------|--------|
| Date                              | Beta  | Date        | Beta   |
| Analytical Limit                  | 0.005 | 7/5-7/11    | *      |
| 12/28-1/4                         | 0.008 | 7/11-7/18   | *      |
| 1/4-1/11                          | *     | 7/18-7/25   | *      |
| 1/11-1/18                         | 0.008 | 7/25-8/1    | 0.007  |
| 1/18-1/25                         | *     | 8/1-8/8     | *      |
| 1/25-2/1                          | 0.007 | 8/8-8/15    | *      |
| 2/1-2/8                           | 0.009 | 8/15-8/22   | *      |
| 2/8-2/15                          | *     | 8/22-8/29   | 0.011  |
| 2/15-2/22                         | *     | 8/29-9/5    | *      |
| 2/22-2/29                         | *     | 9/5-9/12    | *      |
| 2/29-3/7                          | *     | 9/12-9/19   | *      |
| 3/7-3/14                          | 0.007 | 9/19-9/26   | 0.009  |
| 3/14-3/21                         | *     | 9/26-10/3   | *      |
| 3/21-3/28                         | *     | 10/3-10/10  | *      |
| 3/28-4/4                          | *     | 10/10-10/17 | 0.017  |
| 4/4-4/11                          | *     | 10/17-10/24 | *      |
| 4/11-4/18                         | *     | 10/24-10/31 | *      |
| 4/18-4/25                         | *     | 10/31-11/7  | *      |
| 4/25-5/2                          | *     | 11/7-11/14  | *      |
| 5/2-5/9                           | *     | 11/14-11/20 | *      |
| 5/9-5/16                          | *     | 11/20-11/28 | *      |
| 5/16-5/23                         | *     | 11/28-12/5  | *      |
| 5/23-5/30                         | *     | 12/5-12/12  | *      |
| 5/30-6/6                          | *     | 12/12-12/19 | *      |
| 6/6-6/13                          | *     | 12/19-12/22 | *      |
| 6/13-6/20                         | *     | 12/22-1/2   | *      |
| 6/20-6/27                         | *     | Annual      | *0.003 |
| 6/27-7/5                          | 0.007 | Average     |        |

\* Results were less than the analytical limit shown.

APPENDIX A

TABLE 9

BETA ACTIVITY IN THE COLUMBIA RIVER AT 100-D  
(GRAB SAMPLES) - 1972

Units of counts/minute/milliliter

| <u>Date</u>         | <u>Beta</u> |
|---------------------|-------------|
| Analytical<br>Limit | 0.01        |
| 5/23                | *           |
| 8/18                | *           |
| 9/25                | *           |
| 11/16               | *           |
| 12/19               | *           |
| Annual Average      | 0.006       |

\* Result was less than the analytical limit shown.



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APPENDIX B



## APPENDIX B

TABLE 1

CONCENTRATIONS OF RADIONUCLIDES IN RICHLAND DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

| Date             | Units of $10^{-9} \mu\text{Ci/ml}$ of Water |                                    |                                    |                                    |                                    |                                     |                                      |       |
|------------------|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|--------------------------------------|-------|
|                  | <u><math>^{46}\text{Sc}</math></u>          | <u><math>^{51}\text{Cr}</math></u> | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}</math></u> | <u><math>^{137m}\text{Ba}</math></u> | Alpha |
| Analytical Limit | 23.   | 300.                               | 20.                                | 35.                                | 0.40                               | 16.                                 |                                      | 0.30  |
| 12/27-1/3        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 2.1   |
| 1/3-1/10         | *   | *                                  | *                                  | 39.                                |                                    | *                                   |                                      | 1.2   |
| 1/10-1/17        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 1/17-1/24        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | 1.0   |
| 1/24-1/31        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.92  |
| 1/31-2/7         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 1.6   |
| 2/7-2/14         | *   | *                                  | 23.                                | *                                  |                                    | *                                   |                                      | 2.6   |
| 2/14-2/22        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | 1.6   |
| 2/22-2/28        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 2/28-3/6         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 1.2   |
| 3/6-3/13         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 1.9   |
| 3/13-3/20        | *   | 420.                               | 27.                                | *                                  |                                    | *                                   |                                      | 0.69  |
| 3/20-3/27        | 37.   | *                                  | 30.                                | 84.                                | *                                  | *                                   |                                      | 3.9   |
| 3/27-4/3         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.69  |
| 4/3-4/10         | *   | *                                  | *                                  | *                                  |                                    | 49.                                 |                                      | 0.58  |
| 4/10-4/17        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 4/17-4/24        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | 0.76  |
| 4/24-5/1         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 5/1-5/8          | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.56  |
| 5/8-5/15         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.48  |
| 5/15-5/22        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | *     |
| 5/22-5/30        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 5/30-6/5         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 6/5-6/12         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 1.1   |
| 6/12-6/19        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 1.2   |
| 6/19-6/26        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | 0.67  |
| 6/26-7/3         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.46  |
| 7/3-7/10         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 7/10-7/17        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.43  |
| 7/17-7/24        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | *     |
| 7/24-7/31        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.30  |
| 7/31-8/7         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.69  |
| 8/7-8/14         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |
| 8/14-8/21        | *   | *                                  | *                                  | *                                  | *                                  | *                                   |                                      | *     |
| 8/21-8/28        | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | 0.32  |
| 8/28-9/5         | *   | *                                  | *                                  | *                                  |                                    | *                                   |                                      | *     |

\* Results were less than the analytical limit shown.  
No entry indicates no analysis was made.

## APPENDIX B

TABLE 1 (Continued)

CONCENTRATIONS OF RADIONUCLIDES IN RICHLAND DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

| <u>Date</u>      | <u>46</u> <sub>Sc</sub> | <u>51</u> <sub>Cr</sub> | <u>60</u> <sub>Co</sub> | <u>65</u> <sub>Zn</sub> | <u>90</u> <sub>Sr</sub> | <u>137</u> <sub>Cs</sub> - <u>137</u> <sup>m</sup> <sub>Ba</sub> | <u>Alpha</u> |
|------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|--------------|
| Analytical Limit | 23.                     | 300.                    | 20.                     | 35.                     | 0.40                    | 16.  | 0.30         |
| 9/5-9/11         | *                       | *                       | *                       | *                       |                         | *  | *            |
| 9/11-9/18        | *                       | *                       | *                       | *                       |                         | *  | 0.42         |
| 9/18-9/25        | *                       | *                       | *                       | *                       | *                       | *  | 1.1          |
| 9/25-10/2        | *                       | *                       | *                       | *                       |                         | *  | *            |
| 10/2-10/9        | *                       | *                       | *                       | *                       |                         | *  | 0.57         |
| 10/9-10/16       | *                       | *                       | *                       | *                       |                         | *  | 0.42         |
| 10/16-10/23      | *                       | *                       | *                       | *                       | *                       | *  | *            |
| 10/23-10/30      | *                       | *                       | *                       | *                       |                         | *  | 0.56         |
| 10/30-11/6       | *                       | *                       | 23.                     | *                       |                         | *  | 0.67         |
| 11/6-11/13       | *                       | *                       | 24.                     | *                       |                         | *  | *            |
| 11/13-11/20      | *                       | *                       | *                       | *                       | *                       | *  | 0.39         |
| 11/20-11/27      | *                       | *                       | *                       | *                       |                         | *  | *            |
| 11/27-12/4       | *                       | *                       | *                       | *                       |                         | *  | *            |
| 12/4-12/11       | *                       | *                       | *                       | *                       |                         | *  | 0.44         |
| 12/11-12/18      | *                       | *                       | 20.                     | *                       |                         | *  | *            |
| 12/18-12/21      | *                       | *                       | *                       | *                       | *                       | *  | *            |
| 12/21-1/2        | *                       | *                       | 39.                     | *                       |                         | *  | 0.51         |
| Annual Average   | *1.6                    | *43.                    | *5.3                    | *7.3                    | 0.22                    | *2.4   | 0.71         |

\* Results were less than the analytical limit shown.  
No entry indicates no analysis was made.

## APPENDIX B

TABLE 2

CONCENTRATIONS OF RADIONUCLIDES IN 300 AREA DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

| Date             | Units of $10^{-9} \mu\text{Ci/ml}$ of Water |                  |                  |                  |                                    |       |
|------------------|---|------------------|------------------|------------------|------------------------------------|-------|
|                  | $^{46}\text{Sc}$                            | $^{51}\text{Cr}$ | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{137}\text{Cs}-^{137m}\text{Ba}$ | Alpha |
| Analytical Limit | 23.   | 300.             | 20.              | 35.              | 16.                                | 0.45  |
| 12/27-1/3        | *   | *                | *                | *                | *                                  | 0.92  |
| 1/3-1/10         | *   | *                | *                | *                | *                                  | 1.4   |
| 1/10-1/17        | *   | *                | *                | *                | *                                  | 1.1   |
| 1/17-1/24        | *   | *                | *                | 40.              | *                                  | 1.4   |
| 1/24-1/31        | *   | *                | *                | *                | *                                  | 1.6   |
| 1/31-2/7         | *   | *                | *                | *                | *                                  | *     |
| 2/7-2/14         | *   | *                | *                | *                | *                                  | 0.76  |
| 2/14-2/22        | *   | *                | *                | *                | *                                  | 0.85  |
| 2/22-2/28        | *   | *                | *                | 44.              | *                                  | 0.97  |
| 2/28-3/6         | *   | *                | *                | *                | *                                  | 0.62  |
| 3/6-3/13         | *   | *                | *                | *                | *                                  | 1.6   |
| 3/13-3/20        | *   | *                | 28.              | *                | *                                  | *     |
| 3/20-3/27        | *   | *                | *                | *                | *                                  | *     |
| 3/27-4/3         | *   | *                | *                | *                | *                                  | 0.86  |
| 4/3-4/10         | *   | *                | *                | *                | *                                  | 0.99  |
| 4/10-4/17        | *   | *                | *                | *                | *                                  | 0.79  |
| 4/17-4/24        | *   | *                | 20.              | *                | *                                  | 0.62  |
| 4/24-5/1         | *   | *                | *                | *                | *                                  | *     |
| 5/1-5/8          | *   | *                | *                | *                | *                                  | 0.71  |
| 5/8-5/15         | *   | *                | *                | *                | *                                  | 0.65  |
| 5/15-5/22        | *   | *                | *                | *                | *                                  | *     |
| 5/22-5/30        | *   | *                | *                | *                | *                                  | *     |
| 5/30-6/5         | *   | *                | *                | *                | *                                  | *     |
| 6/5-6/12         | *   | *                | *                | *                | *                                  | *     |
| 6/12-6/19        | *   | *                | *                | *                | *                                  | *     |
| 6/19-6/26        | *   | *                | *                | *                | *                                  | *     |
| 6/26-7/3         | *   | *                | *                | *                | *                                  | 0.57  |
| 7/3-7/10         | *   | *                | *                | *                | *                                  | *     |
| 7/10-7/17        | *   | *                | *                | *                | *                                  | *     |
| 7/17-7/24        | *   | *                | *                | *                | *                                  | *     |
| 7/24-7/31        | *   | *                | *                | *                | *                                  | *     |
| 7/31-8/7         | *   | *                | *                | *                | *                                  | 0.88  |
| 8/7-8/14         | *   | *                | *                | *                | *                                  | *     |
| 8/14-8/21        | *   | *                | *                | *                | *                                  | 0.62  |
| 8/21-8/28        | *   | *                | *                | *                | *                                  | *     |
| 8/28-9/5         | *   | *                | *                | *                | *                                  | *     |

\* Results were less than the analytical limit shown.

## APPENDIX B

TABLE 2 (Continued)

CONCENTRATIONS OF RADIONUCLIDES IN 300 AREA DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

| <u>Date</u>      | Units of $10^{-9}$ $\mu\text{Ci}/\text{ml}$ of Water |                                    |                                    |                                    |  |              |
|------------------|--|------------------------------------|------------------------------------|------------------------------------|--|--------------|
|                  | <u><math>^{46}\text{Sc}</math></u>                   | <u><math>^{51}\text{Cr}</math></u> | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{137}\text{Cs}</math></u> - <u><math>^{137m}\text{Ba}</math></u> | <u>Alpha</u> |
| Analytical Limit | 23.  | 300.                               | 20.                                | 35.                                | 16.  | 0.45         |
| 9/5-9/11         | *  | *                                  | *                                  | *                                  | *  | 0.46         |
| 9/11-9/18        | *  | *                                  | *                                  | *                                  | *  | *            |
| 9/18-9/25        | *  | *                                  | *                                  | *                                  | *  | *            |
| 9/25-10/2        | *  | *                                  | *                                  | *                                  | *  | 0.78         |
| 10/2-10/9        | *  | *                                  | *                                  | *                                  | *  | *            |
| 10/9-10/16       | *  | *                                  | *                                  | *                                  | *  | 0.58         |
| 10/16-10/23      | *  | *                                  | *                                  | *                                  | *  | 0.57         |
| 10/23-10/30      | *  | *                                  | *                                  | *                                  | *  | *            |
| 10/30-11/6       | *  | *                                  | *                                  | *                                  | *  | 0.60         |
| 11/6-11/13       | *  | *                                  | 29.                                | *                                  | *  | *            |
| 11/13-11/20      | *  | *                                  | *                                  | *                                  | *  | *            |
| 11/20-11/27      | *  | *                                  | 22.                                | *                                  | *  | *            |
| 11/27-12/4       | *  | *                                  | *                                  | *                                  | *  | *            |
| 12/4-12/11       | *  | *                                  | *                                  | *                                  | *  | *            |
| 12/11-12/18      | *  | *                                  | *                                  | *                                  | *  | *            |
| 12/18-12/21      | *  | *                                  | *                                  | *                                  | *  | *            |
| 12/21-1/2        | *  | *                                  | *                                  | *                                  | *  | *            |
| Annual Average   | *1.1   | *32.                               | *4.5                               | *3.0                               | *1.2   | 0.66         |

APPENDIX B

TABLE 3

ALPHA IN 100-H DRINKING WATER  
(GRAB SAMPLES) - 1972

Units of  $10^{-9}$   $\mu\text{Ci}/\text{ml}$  of Water

| Date             | Alpha |
|------------------|-------|
| Analytical Limit | 1.5   |
| 1/3              | 4.4   |
| 1/31             | *     |
| 3/27             | *     |
| 4/24             | *     |
| 5/22             | *     |
| 6/19             | *     |
| 7/17             | *     |
| 8/14             | *     |
| 9/11             | *     |
| 10/9             | *     |
| 11/6             | *     |
| 12/4             | *     |
| Annual Average   | 0.83  |

\* Results were less than the analytical limit shown.

APPENDIX B

TABLE 4

BETA ACTIVITY IN RICHLAND DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

Units of counts/minute/milliliter of Water

| Date                | c/m/ml | Date        | c/m/ml |
|---------------------|--------|-------------|--------|
| Analytical<br>Limit | 0.005  |             |        |
| 12/27-1/3           | *      | 7/3-7/10    | *      |
| 1/3-1/10            | *      | 7/10-7/17   | *      |
| 1/10-1/17           | *      | 7/17-7/24   | *      |
| 1/17-1/24           | *      | 7/24-7/31   | *      |
| 1/24-1/31           | *      | 7/31-8/7    | .007   |
| 1/31-2/7            | *      | 8/7-8/14    | *      |
| 2/7-2/14            | .008   | 8/14-8/21   | *      |
| 2/14-2/22           | .005   | 8/21-8/28   | *      |
| 2/22-2/28           | *      | 8/28-9/5    | *      |
| 2/28-3/6            | *      | 9/5-9/11    | *      |
| 3/6-3/13            | *      | 9/11-9/18   | *      |
| 3/13-3/20           | .007   | 9/18-9/25   | .005   |
| 3/20-3/27           | .006   | 9/25-10/2   | *      |
| 3/27-4/3            | *      | 10/2-10/9   | *      |
| 4/3-4/10            | *      | 10/9-10/16  | *      |
| 4/10-4/17           | *      | 10/16-10/23 | *      |
| 4/17-4/24           | .005   | 10/23-10/30 | *      |
| 4/24-5/1            | .006   | 10/30-11/6  | *      |
| 5/1-5/8             | *      | 11/6-11/13  | *      |
| 5/8-5/15            | *      | 11/13-11/20 | *      |
| 5/15-5/22           | *      | 11/20-11/27 | *      |
| 5/22-5/29           | *      | 11/27-12/4  | *      |
| 5/29-6/5            | *      | 12/4-12/11  | *      |
| 6/5-6/12            | *      | 12/11-12/18 | *      |
| 6/12-6/19           | *      | 12/18-12/21 | *      |
| 6/19-6/26           | *      | 12/21-1/2   | *      |
| 6/26-7/3            | .009   | Annual Avg. | *-0.02 |

\* Results were less than the analytical limit shown.

APPENDIX B

TABLE 5

BETA ACTIVITY IN 300 AREA DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

Units of counts/minute/milliliter of Water

| Date                | c/m/ml | Date        | c/m/ml |
|---------------------|--------|-------------|--------|
| Analytical<br>Limit | 0.005  |             |        |
| 12/27-1/3           | 0.009  | 7/3-7/10    | *      |
| 1/3-1/10            | *      | 7/10-7/17   | *      |
| 1/10-1/17           | 0.005  | 7/17-7/24   | *      |
| 1/17-1/24           | *      | 7/24-7/31   | 0.005  |
| 1/24-1/31           | *      | 7/31-8/7    | *      |
| 1/31-2/7            | *      | 8/7-8/14    | *      |
| 2/7-2/14            | *      | 8/14-8/21   | *      |
| 2/14-2/22           | 0.006  | 8/21-8/28   | *      |
| 2/22-2/28           | *      | 8/28-9/5    | *      |
| 2/28-3/6            | *      | 9/5-9/11    | *      |
| 3/6-3/13            | 0.008  | 9/11-9/18   | *      |
| 3/13-3/20           | *      | 9/18-9/25   | *      |
| 3/20-3/27           | *      | 9/25-10/2   | *      |
| 3/27-4/3            | *      | 10/2-10/9   | *      |
| 4/3-4/10            | *      | 10/9-10/16  | *      |
| 4/10-4/17           | *      | 10/16-10/23 | 0.009  |
| 4/17-4/24           | *      | 10/23-10/30 | *      |
| 4/24-5/1            | *      | 10/30-11/6  | *      |
| 5/1-5/8             | *      | 11/6-11/13  | *      |
| 5/8-5/15            | *      | 11/13-11/20 | *      |
| 5/15-5/22           | *      | 11/20-11/27 | *      |
| 5/22-5/29           | *      | 11/27-12/4  | *      |
| 5/29-6/5            | *      | 12/4-12/11  | *      |
| 6/5-6/12            | *      | 12/11-12/18 | *      |
| 6/12-6/19           | *      | 12/18-12/21 | *      |
| 6/19-6/26           | *      | 12/21-1/2   | *      |
| 6/26-7/3            | *      | Annual Avg. | 0.003  |

\* Results were less than the analytical limit shown.

APPENDIX B

TABLE 6

BETA ACTIVITY IN 100-H DRINKING WATER  
(GRAB SAMPLES) - 1972

Units of counts/minute/milliliter of Water

| Date             | c/m/ml |
|------------------|--------|
| Analytical Limit | 0.01   |
| 1/3              | 0.01   |
| 1/31             | *      |
| 2/28             | *      |
| 3/27             | *      |
| 4/24             | *      |
| 5/16             | *      |
| 6/19             | *      |
| 7/17             | *      |
| 8/14             | 0.01   |
| 9/11             | *      |
| 10/9             | *      |
| 11/6             | *      |
| 12/4             | *      |

Annual Avg. 0.005

\* Results were less than the analytical limit shown.

APPENDIX B

TABLE 7

BETA ACTIVITY IN 100-N DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

Units of counts/minute/milliliter of Water

| Date             | c/m/ml | Date        | c/m/ml |
|------------------|--------|-------------|--------|
| Analytical Limit | 0.005  |             |        |
| 12/27-1/3        | *      | 7/3-7/10    | *      |
| 1/3-1/10         | *      | 7/10-7/17   | *      |
| 1/10-1/17        | 0.005  | 7/17-7/24   | *      |
| 1/17-1/24        | *      | 7/24-7/31   | *      |
| 1/24-1/31        | 0.008  | 7/31-8/7    | *      |
| 1/31-2/7         | *      | 8/7-8/14    | *      |
| 2/7-2/14         | *      | 8/14-8/21   | *      |
| 2/14-2/22        | *      | 8/21-8/28   | 0.008  |
| 2/22-2/28        | *      | 8/28-9/5    | *      |
| 2/28-3/6         | *      | 9/5-9/11    | *      |
| 3/6-3/13         | *      | 9/11-9/18   | *      |
| 3/13-3/20        | 0.006  | 9/18-9/25   | 0.006  |
| 3/20-3/27        | *      | 9/25-10/2   | *      |
| 3/27-4/3         | *      | 10/2-10/9   | *      |
| 4/3-4/10         | 0.006  | 10/9-10/16  | *      |
| 4/10-4/17        | *      | 10/16-10/23 | 0.005  |
| 4/17-4/24        | *      | 10/23-10/30 | *      |
| 4/24-5/1         | *      | 10/30-11/6  | *      |
| 5/1-5/8          | *      | 11/6-11/13  | *      |
| 5/8-5/15         | *      | 11/13-11/20 | *      |
| 5/15-5/22        | *      | 11/20-11/27 | *      |
| 5/22-5/29        | *      | 11/27-12/4  | *      |
| 5/29-6/5         | *      | 12/4-12/11  | *      |
| 6/5-6/12         | *      | 12/11-12/18 | *      |
| 6/12-6/19        | *      | 12/18-12/21 | *      |
| 6/19-6/26        | 0.005  | Annual Avg. | 0.003  |
| 6/26-7/3         | 0.007  |             |        |

\* Results were less than the analytical limit shown.



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APPENDIX C



## APPENDIX C

TABLE 1

CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF WHITEFISH  
TAKEN FROM THE COLUMBIA RIVER - 1972

| <u>Date</u>      | <u>24<sub>Na</sub></u> | <u>32<sub>P</sub></u> | <u>40<sub>K</sub></u> | <u>58<sub>Co</sub></u> | <u>60<sub>Co</sub></u> | <u>65<sub>Zn</sub></u> | <u>90<sub>Sr</sub></u> | <u>137<sub>Cs</sub>-137<sup>m</sup><sub>Ba</sub></u> |
|------------------|------------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|--|
| Analytical Limit | 0.6                    | 1.0                   | 1.0                   | 0.15                   | 0.15                   | 0.2                    | 0.002                  | 0.10   |
| <u>Ringold</u>   |                        |                       |                       |                        |                        |                        |                        |  |
| 1/6              | *                      | *                     | 4.8                   | *                      | *                      | 0.66                   |                        | 0.21   |
| 1/31             | *                      | *                     | 3.5                   | *                      | 0.16                   | 0.92                   |                        | 0.21   |
| 2/14             | *                      | *                     | 3.5                   | *                      | *                      | 0.60                   |                        | 0.21   |
| 3/10             | *                      | *                     | 4.4                   | *                      | *                      | 0.91                   |                        | 0.18   |
| 3/28             | *                      | *                     | 3.3                   | *                      | *                      | 0.71                   |                        | 0.18   |
| 4/14             | *                      | *                     | 3.2                   | *                      | *                      | *                      |                        | *  |
| 4/27             | *                      | *                     | 4.3                   | *                      | *                      | 0.69                   |                        | 0.31   |
| 5/10             | *                      | *                     | 3.4                   | *                      | *                      | 0.55                   |                        | 0.14   |
| 5/24             | *                      | *                     | 3.1                   | *                      | *                      | 0.44                   |                        | 0.15   |
| 6/1              | *                      | *                     | 4.1                   | *                      | *                      | 0.52                   |                        | 0.15   |
| 6/26             | *                      | *                     | 3.5                   | *                      | *                      | 0.23                   |                        | *  |
| 7/13             | *                      | *                     | 2.6                   | *                      | *                      | 0.31                   |                        | 0.16   |
| 7/21             | *                      | *                     | 3.0                   | *                      | *                      | 0.38                   |                        | 0.22   |
| 8/9              | *                      | *                     | 2.9                   | *                      | *                      | 0.26                   |                        | 0.18   |
| 9/7              | *                      | 1.3                   | 2.6                   | *                      | *                      | *                      | 0.003                  | 0.15   |
| 9/27             | *                      | *                     | 3.5                   | *                      | *                      | *                      | *                      | 0.14   |
| 10/4             | *                      | 1.2                   | 3.3                   | *                      | 0.17                   | *                      | *                      | 0.21   |
| 10/23            | *                      | *                     | 3.0                   | *                      | 0.18                   | *                      | 0.002                  | 0.18   |
| 11/2             | *                      | 1.6                   | 4.9                   | *                      | *                      | 0.25                   | *                      | 0.15   |
| 11/21            | *                      | 1.8                   | 3.7                   | *                      | *                      | 0.23                   | *                      | 0.10   |
| 12/15            | *                      | *                     | 3.9                   | *                      | *                      | 0.23                   | *                      | 0.18   |
| Annual Average   | *0.02                  | 0.62                  | 3.5                   | *0.0003                | 0.03                   | 0.40                   | 0.002                  | 0.17   |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

## APPENDIX C

TABLE 2

CONCENTRATIONS OF RADIONUCLIDES IN MUSCLE OF  
MISCELLANEOUS FISH TAKEN FROM THE COLUMBIA RIVER - 1972

| <u>Date</u>          | <u>Species</u> | <u>24</u><br><u>Na</u> | <u>40</u><br><u>K</u> | <u>58</u><br><u>Co</u> | <u>60</u><br><u>Co</u> | <u>65</u><br><u>Zn</u> | <u>90</u><br><u>Sr</u> | <u>137</u><br><u>Cs</u> - <u>137</u> <sup>m</sup><br><u>Ba</u> |
|----------------------|----------------|------------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|--|
| Analytical Limit     |                | 0.6                    | 1.0                   | 0.15                   | 0.15                   | 0.2                    | 0.002                  | 0.10   |
| <u>Burbank</u>       |                |                        |                       |                        |                        |                        |                        |  |
| 7/26                 | Bass           | *                      | 2.2                   | *                      | *                      | 0.29                   | *                      | *  |
| 7/26                 | Sturgeon       | *                      | 3.4                   | *                      | *                      | 0.23                   | *                      | *  |
| 7/26                 | Catfish        | *                      | 2.4                   | *                      | *                      | 0.21                   | 0.003                  | *  |
| <u>Coyote Rapids</u> |                |                        |                       |                        |                        |                        |                        |  |
| 9/18                 | Steelhead      | *                      | 3.6                   | *                      | *                      | *                      | *                      | *  |
| <u>Richland</u>      |                |                        |                       |                        |                        |                        |                        |  |
| 7/28                 | Bluegill       | *                      | 3.0                   | *                      | *                      | *                      | 0.006                  | *  |

\* Result was less than the analytical limit shown.

APPENDIX C

TABLE 3

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE LIVERS OF  
WATERFOWL SAMPLES IN THE HANFORD ENVIRONS - 1972

Units of  $10^{-6}$   $\mu\text{Ci}/\text{gm}$  (wet weight)

| <u>Date</u>            | <u>Species</u> | <u>U</u> | <u>Pu</u> |
|------------------------|----------------|----------|-----------|
| Analytical Limit       |                | 0.002    | 0.003     |
| <u>300 Area Pond</u>   |                |          |           |
| 3/30                   | Mallard        | 0.002    | *         |
| 6/20                   | Mallard        | 0.011    | 0.008     |
| 9/28                   | Mallard        | 0.15     | *         |
| 11/30                  | Mallard        | 0.024    | *         |
| 11/30                  | Mallard        | 0.024    | *         |
| Annual Average         |                | 0.046    | 0.003     |
| <u>100-F Trench</u>    |                |          |           |
| 6/26                   | Blue Wing Teal |          | *         |
| 9/8                    | Mallard        |          | *         |
| 12/4                   | Mallard        |          |           |
| Annual Average         |                |          | *0.0004   |
| <u>Honey Hill Pond</u> |                |          |           |
| 9/26                   | Gr. Wing Teal  | 0.010    |           |
| <u>U-Swamp</u>         |                |          |           |
| 3/15                   | Coot           | 0.009    |           |
| 11/8                   | Mallard        | 0.48     |           |
| Annual Average         |                | 0.24     |           |

\* Result was less than the analytical limit shown.  
No entry indicates no specific analysis was made.

## APPENDIX C

TABLE 4

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES ALONG THE RIVER IN THE HANFORD ENVIRONS - 1972

Units of  $10^{-6}$   $\mu\text{Ci/gm}$  (wet weight)

| Date                   | Species       | $^{40}\text{K}$ | $^{58}\text{Co}$ | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{90}\text{Sr}$ | $^{137}\text{Cs}$ - $^{137m}\text{Ba}$ |
|------------------------|---------------|-----------------|------------------|------------------|------------------|------------------|--|
| Analy. Limit           |               | 2.4             | 0.15             | 0.15             | 0.2              | 0.002            | 0.18                                   |
| <u>DUCKS</u>           |               |                 |                  |                  |                  |                  |  |
| <u>Hanford (River)</u> |               |                 |                  |                  |                  |                  |  |
| 11/20                  | Gr. Wing Teal | *               | *                | *                | *                | 0.007            | *                                      |
| 11/20                  | Gr. Wing Teal | *               | *                | *                | *                | 0.005            | *                                      |
| 11/20                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/20                  | Gr. Wing Teal | 5.0             | *                | 0.24             | *                | *                | *                                      |
| 11/22                  | Mallard       | 2.5             | *                | *                | *                | *                | *                                      |
| 11/22                  | Mallard       | 2.5             | *                | *                | *                | 0.002            | *                                      |
| 11/22                  | Gr. Wing Teal | *               | *                | *                | *                | 0.004            | *                                      |
| 11/22                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/22                  | Gr. Wing Teal | 3.4             | *                | *                | *                | *                | *                                      |
| 11/22                  | Gr. Wing Teal | 3.0             | *                | *                | *                | 0.006            | *                                      |
| 11/22                  | Gr. Wing Teal | 3.3             | *                | *                | *                | 0.004            | *                                      |
| 11/22                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/22                  | Gr. Wing Teal | 3.4             | *                | *                | *                | 0.004            | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | 3.9             | *                | *                | *                | 0.009            | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | 0.004            | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | 4.1             | *                | *                | *                | 0.004            | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | 0.005            | *                                      |
| 11/29                  | Gr. Wing Teal | 4.2             | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | 1.2                                    |
| 11/29                  | Gr. Wing Teal | 4.9             | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | *               | *                | *                | *                | *                | *                                      |
| 11/29                  | Gr. Wing Teal | 3.5             | *                | *                | *                | 0.003            | *                                      |
| 11/29                  | Mallard       | 3.4             | *                | *                | *                | 0.010            | *                                      |
| Annual Average         |               | 2.6             | *0.003           | *0.018           | 0.061            | 0.003            | 0.09                                   |

\* Less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 4 (Continued)

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES ALONG THE RIVER IN THE HANFORD ENVIRONS - 1972

| Units of $10^{-6}$ $\mu\text{Ci}/\text{gm}$ (wet weight) |                |                 |                  |                  |                  |                                    |
|--|----------------|-----------------|------------------|------------------|------------------|------------------------------------|
| Date   | Species        | $^{40}\text{K}$ | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{90}\text{Sr}$ | $^{137}\text{Cs}-^{137m}\text{Ba}$ |
| Analy. Limit   |                | 2.4             | 0.15             | 0.2              | 0.002            | 0.1                                |
| <u>GEESE</u>   |                |                 |                  |                  |                  |                                    |
|  | <u>100-D</u>   |                 |                  |                  |                  |                                    |
| 1/4  | Can. Honker    | 2.9             | *                | 0.33             |                  | *                                  |
| 2/7  | Can. Honker    | 2.7             | *                | 0.26             |                  | *                                  |
| 12/1   | Can. Honker    | *               | *                | *                | 0.002            | *                                  |
| Annual   | Average        | 2.5             | *                | 0.18             |                  | *0.033                             |
|  | <u>100-N</u>   |                 |                  |                  |                  |                                    |
| 2/15   | Can. Honker    | 2.8             | *                | *                |                  | *                                  |
| 11/1   | Can. Honker    | 2.9             | *                | *                |                  | 0.17                               |
| 11/7   | Can. Honker    | 2.5             | *                | *                |                  | *                                  |
| Annual   | Average        | 2.8             | *                | *0.11            |                  | *0.06                              |
|  | <u>100-F</u>   |                 |                  |                  |                  |                                    |
| 11/13  | Can. Honker    | 2.4             | *                | *                | *                | 0.23                               |
|  | <u>100-B</u>   |                 |                  |                  |                  |                                    |
| 11/30  | Can. Honker    | *               | *                | *                | *                | 0.14                               |
| 12/8   | Can. Lesser    | 3.4             | *                | *                | *                | *                                  |
| 12/8   | Can. Lesser    | *               | *                | *                | 0.002            | *                                  |
| 12/8   | Can. Lesser    | 3.2             | *                | *                | *                | *                                  |
| 12/8   | Can. Lesser    | 2.4             | *                | *                | *                | *                                  |
| 12/8   | Can. Lesser    | 2.4             | *                | *                | *                | *                                  |
| 12/8   | Can. Lesser    | 3.1             | *                | *                | 0.002            | *                                  |
| Annual   | Average        | 2.4             | *0.004           | *                | 0.002            | 0.092                              |
|  | <u>Hanford</u> |                 |                  |                  |                  |                                    |
| 12/14  | Can. Lesser    | 2.7             | *                | *                | *                | *                                  |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 4 (Continued)

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES ALONG THE RIVER IN THE HANFORD ENVIRONS - 1972

| <u>Date</u>         | <u>Species</u> | Units of $10^{-6}$ $\mu\text{Ci/gm}$ (wet weight) |                                    |                                    |                                    |                                    |   |
|---------------------|----------------|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---|
|                     |                | <u><math>^{40}\text{K}</math></u>                 | <u><math>^{58}\text{Co}</math></u> | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}</math>-<math>^{137m}\text{Ba}</math></u> |
| Analy. Limit        |                | 2.4   | 0.15                               | 0.15                               | 0.2                                | 0.002                              | 0.1   |
| <u>GEESE</u>        |                |   |                                    |                                    |                                    |                                    |   |
| <u>100-H</u>        |                |   |                                    |                                    |                                    |                                    |   |
| 2/7                 | Can. Lesser    | 2.5   | *                                  | *                                  | *                                  |                                    | *   |
| 10/3                | Can. Lesser    | 4.7   | 0.57                               | *                                  | 0.37                               |                                    | 0.68  |
| Annual Average      |                | 3.6   | 0.29                               | *0.031                             | 0.20                               |                                    | 0.36  |
| <u>100-K</u>        |                |   |                                    |                                    |                                    |                                    |   |
| 1/18                | Can. Lesser    | 2.7   | *                                  | *                                  | *                                  |                                    | 0.97  |
| 1/19                | Can. Lesser    | 3.4   | *                                  | *                                  | *                                  |                                    | *   |
| Annual Average      |                | 3.1   |                                    |                                    | *0.078                             |                                    | 0.51  |
| <u>White Bluffs</u> |                |   |                                    |                                    |                                    |                                    |   |
| 1/4                 | Can. Lesser    | 4.0   | *                                  | *                                  | *                                  |                                    | *   |
| 1/18                | Can. Lesser    | 4.1   | *                                  | *                                  | 0.25                               |                                    | *   |
| 1/18                | Can. Lesser    | 2.8   | *                                  | *                                  | *                                  |                                    | *   |
| 1/18                | Can. Lesser    | 2.8   | *                                  | *                                  | *                                  |                                    | *   |
| 2/7                 | Can. Hunker    | 3.0   | *                                  | *                                  | *                                  |                                    | *   |
| 2/7                 | Can. Lesser    | 2.8   | *                                  | *                                  | *                                  |                                    | *   |
| 2/7                 | Can. Lesser    | 3.0   | *                                  | *                                  | *                                  |                                    | *   |
| 2/7                 | Can. Lesser    | 2.5   | *                                  | *                                  | *                                  |                                    | *   |
| 2/7                 | Can. Lesser    | 3.0   | *                                  | *                                  | *                                  |                                    | *   |
| 11/30               | Can. Hunker    | 2.4   | *                                  | *                                  | *                                  | 0.005                              | 0.16  |
| 12/1                | Can. Lesser    | 2.4   | *                                  | *                                  | *                                  | *                                  | *   |
| 12/1                | Can. Lesser    | 2.3   | *                                  | *                                  | *                                  | 0.003                              | *   |
| 12/1                | Can. Lesser    | 2.4   | *                                  | *                                  | *                                  | 0.017                              | *   |
| Annual Average      |                | 2.8   |                                    |                                    | *0.048                             | 0.006                              | 0.073   |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 4 (Continued)

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES ALONG THE RIVER IN THE HANFORD ENVIRONS - 1972

| Units of $10^{-6} \mu\text{Ci/gm}$ (wet weight) |           |                 |                  |                  |                  |                  |
|---|-----------|-----------------|------------------|------------------|------------------|------------------|
| Date  | Species   | $^{40}\text{K}$ | $^{58}\text{Co}$ | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{90}\text{Sr}$ |
| Analyt. Limit                                   |           | 2.4             | 0.15             | 0.15             | 0.2              | 0.002            |
| <u>DUCKS</u>                                    |           |                 |                  |                  |                  |                  |
| <u>100-F (River)</u>                            |           |                 |                  |                  |                  |                  |
| 11/20   | Mallard   | 3.3             | *                | *                | 0.20             | *                |
| 11/20   | Mallard   | *               | *                | *                | *                | *                |
| 11/20   | Mallard   | 2.5             | *                | *                | *                | 0.002            |
| 11/20   | Mallard   | 2.4             | *                | *                | 0.24             | 0.006            |
| 11/29   | Mallard   | 3.0             | *                | *                | *                | 0.008            |
| 11/29   | Mallard   | *               | *                | *                | *                | 0.002            |
| 11/29   | Mallard   | 3.7             | *                | *                | *                | *                |
| 11/29   | Mallard   | 2.5             | *                | *                | *                | *                |
| 11/29   | Mallard   | 3.4             | *                | *                | *                | *                |
| Annual Average                                  |           | 3.4             | *0.037           | *0.041           | *0.065           | 0.004            |
|   |           |                 |                  |                  |                  | *0.093           |
| <u>300 Area (River)</u>                         |           |                 |                  |                  |                  |                  |
| 11/2  | Mallard   | *               | *                | *                | *                | *                |
| <u>100-H (River)</u>                            |           |                 |                  |                  |                  |                  |
| 1/20  | Merganser | 3.1             | *                | *                | 0.28             | *                |
| 2/23  | Merganser | 2.4             | *                | *                | 0.36             | *                |
| Annual Average                                  |           | 2.8             | *                | *                | 0.32             | *0.082           |
| <u>100-K (River)</u>                            |           |                 |                  |                  |                  |                  |
| 11/9  | Old Squaw | 3.2             | *                | *                | *                | *                |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 4 (Continued)

**CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES ALONG THE RIVER IN THE HANFORD ENVIRONS - 1972**

| <u>Date</u>          | <u>Species</u> | Units of $10^{-6}$ $\mu\text{Ci}/\text{gm}$ (wet weight) |                                    |                                    |                                    |                                    |   |
|----------------------|----------------|--|------------------------------------|------------------------------------|------------------------------------|------------------------------------|---|
|                      |                | <u><math>^{40}\text{K}</math></u>                        | <u><math>^{58}\text{Co}</math></u> | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}</math>-<math>^{137m}\text{Ba}</math></u> |
| Analy. Limit         |                | 2.4  | 0.15                               | 0.15                               | 0.2                                | 0.002                              | 0.18  |
| <u>DUCKS</u>         |                |  |                                    |                                    |                                    |                                    |   |
| <u>100-F (River)</u> |                |  |                                    |                                    |                                    |                                    |   |
| 1/17                 | Mallard        | 3.8  | *                                  | *                                  | *                                  |                                    | *   |
| 1/17                 | Mallard        | 3.0  | *                                  | *                                  | *                                  |                                    | *   |
| 1/17                 | Mallard        | 2.6  | *                                  | *                                  | *                                  |                                    | *   |
| 1/17                 | Mallard        | 3.4  | *                                  | *                                  | *                                  |                                    | *   |
| 1/17                 | Mallard        | 2.6  | *                                  | *                                  | *                                  |                                    | *   |
| 1/17                 | Mallard        | 3.0  | *                                  | *                                  | *                                  |                                    | *   |
| 10/31                | Mallard        | 4.0  | *                                  | *                                  | *                                  | 0.004                              | 0.20  |
| 11/1                 | Mallard        | 3.7  | *                                  | *                                  | *                                  | 0.005                              | *   |
| 11/1                 | Mallard        | *  | *                                  | *                                  | *                                  | 0.007                              | *   |
| 11/1                 | Mallard        | 3.0  | *                                  | *                                  | *                                  | 0.004                              | *   |
| 11/1                 | Mallard        | 3.8  | *                                  | *                                  | *                                  | 0.014                              | *   |
| 11/1                 | Mallard        | 3.4  | *                                  | *                                  | 0.19                               | 0.004                              | *   |
| 11/1                 | Mallard        | 3.8  | *                                  | *                                  | *                                  | 0.004                              | *   |
| 11/7                 | Mallard        | *  | *                                  | *                                  | *                                  |                                    | *   |
| 11/7                 | Mallard        | 2.5  | *                                  | *                                  | *                                  |                                    | *   |
| 11/7                 | Mallard        | *  | *                                  | *                                  | *                                  |                                    | *   |
| 11/7                 | Mallard        | 2.8  | *                                  | *                                  | *                                  |                                    | *   |
| 11/7                 | Mallard        | 2.5  | *                                  | *                                  | *                                  |                                    | *   |
| 11/9                 | Mallard        | 2.6  | *                                  | *                                  | *                                  | *                                  | *   |
| 11/9                 | Mallard        | 3.6  | *                                  | *                                  | 0.28                               | 0.004                              | *   |
| 11/9                 | Mallard        | 3.6  | *                                  | *                                  | 0.46                               | 0.002                              | *   |
| 11/13                | Mallard        | 3.3  | *                                  | *                                  | 0.23                               | 0.003                              | *   |
| 11/14                | Mallard        | 3.4  | *                                  | *                                  | *                                  | 0.003                              | *   |
| 11/14                | Mallard        | *  | *                                  | *                                  | *                                  | 0.003                              | *   |
| 11/14                | Mallard        | *  | *                                  | *                                  | *                                  | 0.005                              | *   |
| 11/15                | Mallard        | 3.4  | *                                  | *                                  | *                                  | *                                  | *   |
| 11/15                | Mallard        | 2.4  | *                                  | *                                  | *                                  | 0.005                              | *   |
| 11/15                | Mallard        | 5.2  | *                                  | *                                  | 0.22                               | 0.002                              | 0.21  |
| 11/15                | Mallard        | *  | *                                  | *                                  | *                                  | *                                  | *   |
| 11/15                | Mallard        | 2.7  | *                                  | *                                  | 0.32                               | 0.003                              | *   |
| Annual Average       |                | 3.4  | *0.037                             | *0.041                             | *0.065                             | 0.004                              | *0.093  |

\*Results were less than the analytical limit shown.

No entry indicates no analysis was made.

## APPENDIX C

TABLE 5

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES FROM THE PONDS IN THE HANFORD ENVIRONS - 1972

Units of  $10^{-6}$   $\mu\text{Ci}/\text{gm}$  (wet weight)

| <u>Date</u>            | <u>Species</u> | <u><math>^{40}\text{K}</math></u> | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
|------------------------|----------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| Analy. Limit           |                | 2.4                               | 0.15                               | 0.2                                | 0.002                              | 0.1  |
| <u>DUCKS</u>           |                |                                   |                                    |                                    |                                    |  |
| <u>T-Swamp</u>         |                |                                   |                                    |                                    |                                    |  |
| 3/30                   | Mallard        | 9.5                               | 0.20                               | 0.40                               | 0.003                              | 70.0   |
| <u>300 Area Pond</u>   |                |                                   |                                    |                                    |                                    |  |
| 3/30                   | Mallard        | 2.5                               | *                                  | *                                  | *                                  | *  |
| 6/20                   | Mallard        | 2.8                               | *                                  | *                                  | 0.002                              | *  |
| 9/28                   | Mallard        | 2.9                               | *                                  | *                                  | *                                  | *  |
| 11/30                  | Mallard        | 2.3                               | *                                  | *                                  | *                                  | *  |
| 11/30                  | Mallard        | 2.3                               | *                                  | *                                  | *                                  | *  |
| Annual Average         |                | 2.6                               | *0.0005                            | *0.045                             | *0.0006                            | *0.041   |
| <u>B-Swamp</u>         |                |                                   |                                    |                                    |                                    |  |
| 3/4                    | Golden Eye     | 3.2                               | *                                  | *                                  |                                    | 1.1  |
| 5/25                   | Shoveler       | 3.0                               | *                                  | *                                  | 0.003                              | 0.33   |
| 9/8                    | Coot           | 5.5                               | *                                  | *                                  | 0.003                              | 3.8  |
| 11/29                  | Mallard        | 4.4                               | *                                  | *                                  | 0.003                              | 8.0  |
| Annual Average         |                | 4.0                               | *                                  | 0.11                               | 0.003                              | 3.3  |
| <u>100-F Trench</u>    |                |                                   |                                    |                                    |                                    |  |
| 6/26                   | Blue Wing Teal | 3.5                               | *                                  | 0.41                               | 0.080                              | 0.25   |
| 9/8                    | Mallard        | 2.2                               | *                                  | *                                  | 0.037                              | *  |
| 12/4                   | Mallard        | 2.8                               | *                                  | *                                  | 0.22                               | *  |
| Annual Average         |                | 2.8                               | *                                  | 0.14                               | 0.11                               | 0.14   |
| <u>Honey Hill Pond</u> |                |                                   |                                    |                                    |                                    |  |
| 9/26                   | Gr. Wing Teal  | 2.6                               | *                                  | *                                  | *                                  | 4.2  |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 5 (Continued)

CONCENTRATIONS OF SELECTED RADIONUCLIDES IN THE MUSCLE OF  
WATERFOWL SAMPLES FROM THE PONDS IN THE HANFORD ENVIRONS - 1972

| <u>Date</u>        | <u>Species</u> | Units of $10^{-6}$ $\mu\text{Ci}/\text{gm}$ (wet weight) |                                    |                                    |                                    |  |
|--------------------|----------------|--|------------------------------------|------------------------------------|------------------------------------|--|
|                    |                | <u><math>^{40}\text{K}</math></u>                        | <u><math>^{60}\text{Co}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}</math></u> - <u><math>^{137m}\text{Ba}</math></u> |
| Analy. Limit       |                | 2.4  | 0.15                               | 0.2                                | 0.002                              | 0.1  |
| <u>DUCKS</u>       |                |  |                                    |                                    |                                    |  |
| <u>Redox Swamp</u> |                |  |                                    |                                    |                                    |  |
| 3/15               | Coot           | *  | *                                  | *                                  | 0.10                               | 6.0  |
| 6/26               | Mallard        | 3.2  | *                                  | *                                  | 0.005                              | 0.26   |
| Annual Average     |                | 2.8  | *0.001                             | *0.029                             | 0.054                              | 3.1  |
| <u>Gable Swamp</u> |                |  |                                    |                                    |                                    |  |
| 3/14               | Mallard        | 2.8  | *                                  | *                                  |                                    | 3.5  |
| 5/25               | Mallard        | 4.6  | *                                  | *                                  | 0.004                              | 0.43   |
| 9/8                | Mallard        | 4.4  | *                                  | *                                  | 0.003                              | 55.0   |
| 11/10              | Merganser      | 3.3  | *                                  | 0.22                               | 0.002                              | 45.0   |
| Annual Average     |                | 3.8  | *0.034                             | *0.013                             | 0.003                              | 26.0   |
| <u>U-Swamp</u>     |                |  |                                    |                                    |                                    |  |
| 3/15               | Coot           | *  | *                                  | *                                  | 0.007                              | 12.0   |
| 11/8               | Mallard        | 3.4  | *                                  | *                                  | 0.005                              | 42.0   |
| Annual Average     |                | 2.9  | *0.024                             | *                                  | 0.006                              | 27.0   |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 6

CONCENTRATIONS OF RADIONUCLIDES IN UPLAND GAME BIRD SAMPLES  
IN THE HANFORD ENVIRONS - 1972

| Units of $10^{-6}$ $\mu\text{Ci/gm}$ (wet weight) |          |                 |                  |                  |                  |                    |                                    |
|---|----------|-----------------|------------------|------------------|------------------|--------------------|------------------------------------|
| Date  | Species  | $^{40}\text{K}$ | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{90}\text{Sr}$ | $^{95}\text{ZrNb}$ | $^{137}\text{Cs}-^{137m}\text{Ba}$ |
| Analy. Limit                                      |          | 1.7             | 0.15             | 0.2              | 0.002            | 0.07               | 0.1                                |
| <u>100-B</u>                                      |          |                 |                  |                  |                  |                    |                                    |
| 11/30   | Pheasant | 3.2             | *                | *                | *                | *                  | *                                  |
| 11/30   | Pheasant | *               | *                | *                | *                | *                  | *                                  |
| 11/30   | Pheasant | 2.8             | *                | *                | 0.003            | *                  | *                                  |
| Annual  | Average  | 2.6             | *                | *                | 0.001            | *                  | *0.025                             |
| <u>100-D</u>                                      |          |                 |                  |                  |                  |                    |                                    |
| 1/3   | Pheasant | 3.1             | *                | *                | 0.004            | *                  | *                                  |
| 11/14   | Pheasant | 2.8             | *                | 0.29             |                  | *                  | *                                  |
| 11/22   | Pheasant | 3.3             | *                | *                | *                | *                  | 0.15                               |
| 11/22   | Pheasant | 2.5             | *                | *                | *                | *                  | *                                  |
| 11/29   | Pheasant | 2.1             | *                | *                | 0.003            | *                  | *                                  |
| 11/29   | Pheasant | 2.5             | *                | *                | *                | *                  | *                                  |
| Annual  | Average  | 2.9             | *                | *0.02            | 0.002            | *                  | *0.034                             |
| <u>100-F</u>                                      |          |                 |                  |                  |                  |                    |                                    |
| 11/17   | Pheasant | 2.4             | *                | *                | 0.006            | 0.09               | *                                  |
| 11/17   | Pheasant | 2.6             | *                | *                | 0.005            | *                  | 0.14                               |
| Annual  | Average  | 2.5             | *0.002           | *                | 0.006            | 0.026              | 0.13                               |
| <u>White Bluffs</u>                               |          |                 |                  |                  |                  |                    |                                    |
| 1/3   | Pheasant | 2.6             | *                | *                | 0.003            | *                  | *                                  |
| 11/2  | Pheasant | 2.9             | *                | *                | *                | *                  | 0.11                               |
| 11/2  | Pheasant | 2.2             | *                | *                | *                | *                  | 0.11                               |
| 12/1  | Pheasant | 1.8             | *                | *                | *                | *                  | *                                  |
| Annual  | Average  | 2.3             | *0.016           | *0.051           | 0.002            | *                  | *0.048                             |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX C

TABLE 6 (Continued)

CONCENTRATIONS OF RADIONUCLIDES IN UPLAND GAME BIRD SAMPLES  
IN THE HANFORD ENVIRONS - 1972

| <u>Date</u>     |          | Units of $10^{-6}$ $\mu\text{Ci/gm}$ (wet weight) |                         |                         |                         |                           |  |
|-----------------|----------|---|-------------------------|-------------------------|-------------------------|---------------------------|--|
|                 |          | <u>40</u> <sub>K</sub>                            | <u>60</u> <sub>Co</sub> | <u>65</u> <sub>Zn</sub> | <u>90</u> <sub>Sr</sub> | <u>95</u> <sub>ZrNb</sub> | <u>137</u> <sub>Cs</sub> - <u>137</u> <sup>m</sup> <sub>Ba</sub> |
| Analy. Limit    |          | 1.7   | 0.15                    | 0.2                     | 0.002                   | 0.7                       | 0.1  |
| <u>Hanford</u>  |          |   |                         |                         |                         |                           |  |
| 1/3             | Pheasant | 3.0   | *                       | *                       | 0.004                   | *                         | *  |
| 12/4            | Pheasant | 3.2   | *                       | *                       | 0.007                   | *                         | *  |
| 12/4            | Pheasant | *   | *                       | 0.56                    | 0.006                   | *                         | *  |
| 12/11           | Pheasant | 3.4   | *                       | 0.23                    | 0.003                   | *                         | 0.11   |
| 12/11           | Pheasant | 3.5   | *                       | *                       | 0.002                   | *                         | 0.16   |
| 12/14           | Pheasant | 2.2   | *                       | *                       | 0.004                   | *                         | 0.13   |
| 12/14           | Pheasant | 3.0   | *                       | *                       | 0.008                   | *                         | 0.20   |
| 12/14           | Pheasant | 3.3   | *                       | *                       |                         | *                         | 0.24   |
| Annual Average  |          | 2.9   | *                       | *0.12                   | 0.004                   | *                         | 0.11   |
| <u>300 Area</u> |          |   |                         |                         |                         |                           |  |
| 1/4             | Pheasant | 3.2   | *                       | *                       | *                       | *                         | *  |

\* Results were less than the analytical limit.  
No entry indicates no analysis was made.

APPENDIX D



APPENDIX D

TABLE 1

CONCENTRATION OF RADIONUCLIDES IN OYSTERS  
FROM WILLAPA BAY, WASHINGTON - 1972

| Date             | $^{40}\text{K}$ | $^{65}\text{Zn}$ | $^{137}\text{Cs}-^{137}\text{mBa}$ |
|------------------|-----------------|------------------|------------------------------------|
| Analytical Limit | 1.0             | 0.2              | 0.025                              |
| 1/3              | 1.7             | 2.5              | *                                  |
| 2/1              | 1.5             | 2.1              | *                                  |
| 2/28             | 1.4             | 1.8              | *                                  |
| 4/15             | 1.7             | 2.4              | 0.030                              |
| 5/2              | 1.3             | 1.6              | *                                  |
| 6/8              | 2.1             | 1.7              | 0.053                              |
| 7/18             | 1.8             | 1.2              | 0.030                              |
| 8/10             | 1.8             | 1.4              | 0.045                              |
| 9/8              | 1.9             | 0.90             | 0.030                              |
| Annual Average   | 1.7             | 1.7              | 0.025                              |

\* The result was less than the analytical limit shown.



APPENDIX E



## APPENDIX E

TABLE 1  
CONCENTRATIONS OF I-131 IN THE AIR OF THE HANFORD ENVIRONS - 1972  
 Units of  $10^{-12} \mu\text{Ci/ml}$  of Air (Continuous Samples)

| Approx.<br>Wk. On<br>Date | Ringold | Eastern Quadrant |          |       |         | Berg<br>Ranch | Wahluke<br>Watermaster | New Moon |
|---------------------------|---------|------------------|----------|-------|---------|---------------|------------------------|----------|
|                           |         | Byers<br>Landing | Richland | Pasco | Othello | Connell       |                        |          |
| 12/29                     | *       | *                | *        | *     | *       | *             | *                      | *        |
| 1/5                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 1/12                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 1/19                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 1/26                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 2/2                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 2/9                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 2/16                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 2/23                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 3/1                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 3/8                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 3/15                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 3/22                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 3/29                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 4/5                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 4/12                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 4/19                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 4/26                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 5/3                       | *       | *                | *        | *     | *       | *             | *                      | *        |
| 5/10                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 5/17                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 5/24                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 5/31                      | *       | *                | *        | *     | *       | *             | *                      | *        |
| 6/7                       | *       | *                | *        | *     | *       | *             | *                      | *        |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

\* Indicates the results were less than the analytical limit of  $0.07 \times 10^{-12} \mu\text{Ci/ml}$ .

## APPENDIX E

TABLE 1 (Continued)  
 CONCENTRATIONS OF I-131 IN THE AIR OF THE HANFORD ENVIRONS - 1972  
 Units of  $10^{-12}$   $\mu\text{Ci}/\text{ml}$  of Air (Continuous Samples)  
Eastern Quadrant

| <u>Approx.<br/>Wk. On<br/>Date</u> | <u>Ringold</u> | <u>Byers<br/>Landing</u> | <u>Richland</u> | <u>Pasco</u> | <u>Othello</u> | <u>Connell</u> | <u>Berg<br/>Ranch</u> | <u>Wahluke<br/>Watermaster</u> | <u>New Moon</u> |
|------------------------------------|----------------|--------------------------|-----------------|--------------|----------------|----------------|-----------------------|--------------------------------|-----------------|
| 6/14                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 6/21                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 6/28                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 7/5                                | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 7/12                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 7/19                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 7/26                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 8/2                                | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 8/9                                | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 8/16                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 8/23                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 8/30                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 9/6                                | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 9/13                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 9/20                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 9/27                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 10/4                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 10/11                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 10/18                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 10/25                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 11/1                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 11/8                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 11/15                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 11/22                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 11/29                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 12/6                               | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 12/13                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| 12/19                              | *              | *                        | *               | *            | *              | *              | *                     | *                              | *               |
| Annual Avg.                        | *-0.0003       | *0.001                   | *0.011          | *-0.003      | *0.008         | *0.004         | *0.001                | *-0.002                        | *-0.0005        |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

\* Indicates the results were less than the analytical limit of  $0.07 \times 10^{-12} \mu\text{Ci}/\text{ml}$ .

## APPENDIX E

TABLE 2 (PART A)  
 CONCENTRATIONS OF RADIOACTIVE BETA PARTICULATES IN THE AIR OF THE HANFORD ENVIRONS - 1972

| Approx.<br>Wk. On<br>Date | Units of $10^{-12}$ $\mu\text{Ci}/\text{ml}$ of Air (Continuous Samples) |                  |          |       |           |         | EASTERN QUADRANT |         |               |         | WESTERN QUADRANT |          |      |  |
|---------------------------|--|------------------|----------|-------|-----------|---------|------------------|---------|---------------|---------|------------------|----------|------|--|
|                           | Ringold  | Byers<br>Landing | Richland | Pasco | Kennewick | Eltopia | Othello          | Connell | Berg<br>Ranch | Wahluke | Watermaster      | New Moon |      |  |
| 12/29                     | 0.16   | 0.09             | 0.09     | 0.10  | 0.08      | 0.05    | 0.11             | 0.09    | 0.11          | 0.11    | 0.09             | 0.08     | -41- |  |
| 1/5                       | 0.12   | 0.09             | 0.09     | 0.10  | 0.08      | 0.10    | 0.11             | 0.17    | 0.10          | 0.10    | 0.09             | 0.11     |      |  |
| 1/12                      | 0.12   | 0.10             | 0.10     | 0.10  | 0.14      | 0.10    | 0.11             | 0.17    | 0.10          | 0.10    | 0.09             | 0.11     |      |  |
| 1/19                      | 0.16   | 0.10             | 0.10     | 0.14  | 0.13      | 0.16    | 0.18             | 0.16    | 0.12          | 0.12    | 0.20             | 0.20     |      |  |
| 1/26                      | 0.16   | 0.25             | 0.26     | 0.03  | 0.13      | 0.16    | 0.18             | 0.16    | 0.12          | 0.12    | 0.20             | 0.20     |      |  |
| 2/2                       | 0.15   | 0.25             | 0.26     | 0.03  | 0.23      | 0.11    | 0.15             | 0.13    | 0.15          | 0.14    | 0.17             | 0.17     |      |  |
| 2/9                       | 0.15   | 0.12             | 0.13     | 0.13  | 0.10      | 0.11    | 0.15             | 0.13    | 0.15          | 0.14    | 0.17             | 0.17     |      |  |
| 2/16                      | 0.08   | 0.12             | 0.13     | 0.13  | 0.10      | 0.07    | 0.05             | 0.06    | 0.09          | 0.07    | 0.08             | 0.08     |      |  |
| 2/23                      | 0.08   | 0.05             | 0.07     | 0.06  | 0.10      | 0.07    | 0.05             | 0.06    | 0.09          | 0.07    | 0.07             | 0.08     |      |  |
| 3/1                       | 0.08   | 0.05             | 0.07     | 0.06  | 0.10      | 0.09    | 0.04             | 0.09    | 0.08          | 0.06    | 0.06             | 0.08     |      |  |
| 3/8                       | 0.08   | 0.08             | 0.07     | 0.08  | 0.10      | 0.09    | 0.04             | 0.09    | 0.08          | 0.06    | 0.06             | 0.08     |      |  |
| 3/15                      | 0.10   | 0.08             | 0.07     | 0.08  | 0.10      | 0.11    | 0.16             | 0.17    | 0.14          | 0.08    | 0.10             | 0.10     |      |  |
| 3/22                      | 0.10   | 0.18             | 0.19     | 0.18  | 0.20      | 0.11    | 0.16             | 0.17    | 0.14          | 0.08    | 0.10             | 0.10     |      |  |
| 3/29                      | 0.57   | 0.18             | 0.22     | 0.18  | 0.20      | 0.18    | 0.16             | 0.16    | 0.92          | 0.16    | 0.16             | 0.16     |      |  |
| 4/5                       | 0.57   | 0.11             | 0.20     | 0.14  | 0.12      | 0.18    | 0.16             | 0.16    | 0.92          | 0.16    | 0.16             | 0.16     |      |  |
| 4/12                      | 0.22   | 0.11             | 0.20     | 0.14  | 0.12      | 0.10    | 0.11             | 0.11    | 0.19          | 0.10    | 0.17             | 0.17     |      |  |
| 4/19                      | 0.22   | 0.24             | 0.12     | 0.20  | 0.09      | 0.10    | 0.11             | 0.11    | 0.19          | 0.10    | 0.10             | 0.17     |      |  |
| 4/26                      | 0.49   | 0.24             | 0.12     | 0.20  | 0.09      | 0.26    | 0.22             | 0.58    | 0.49          | 0.10    | 0.26             | 0.26     |      |  |
| 5/3                       | 0.49   | 0.45             | 0.43     | 0.43  | 0.39      | 0.26    | 0.22             | 0.58    | 0.49          | 0.10    | 0.26             | 0.26     |      |  |
| 5/10                      | 0.34   | 0.45             | 0.43     | 0.43  | 0.39      | 0.14    | 0.32             | 0.48    | 0.29          | 0.39    | 0.43             | 0.43     |      |  |
| 5/17                      | 0.34   | 0.20             | 0.32     | 0.31  | 0.25      | 0.14    | 0.32             | 0.48    | 0.29          | 0.39    | 0.43             | 0.43     |      |  |
| 5/24                      | 0.25   | 0.20             | 0.32     | 0.31  | 0.25      | 0.40    | 0.44             | 0.63    | 0.50          | 0.46    | 0.46             | 0.46     |      |  |
| 5/31                      | 0.25   | 0.31             | 0.26     | 0.40  | 0.34      | 0.40    | 0.44             | 0.63    | 0.50          | 0.46    | 0.46             | 0.46     |      |  |
| 6/7                       | 0.24   | 0.31             | 0.26     | 0.40  | 0.34      | 0.21    | 0.22             | 0.23    | 0.25          | 0.19    | 0.19             | 0.19     |      |  |
| 6/14                      | 0.24   | 0.17             | 0.21     | 0.17  | 0.18      | 0.21    | 0.22             | 0.21    | 0.23          | 0.25    | 0.19             | 0.19     |      |  |
| 6/21                      | 0.22   | 0.17             | 0.21     | 0.17  | 0.18      | 0.23    | 0.33             | 0.33    | 0.21          | 0.22    | 0.22             | 0.22     |      |  |
| 6/28                      | 0.22   | 0.31             | 0.30     | 0.31  | 0.29      | 0.23    | 0.33             | 0.33    | 0.28          | 0.21    | 0.21             | 0.22     |      |  |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.  
 \* Results were less than the analytical limit of  $0.02 \times 10^{-12} \mu\text{Ci}/\text{ml}$ .  
 No entry indicates no analysis was made.

## APPENDIX E

TABLE 2 (Part A, Continued)  
 CONCENTRATIONS OF RADIOACTIVE BETA PARTICULATES IN THE AIR OF THE HANFORD ENVIRONS - 1972

| Approx.<br>Wk.<br>On<br>Date | Units of $10^{-12}$ $\mu\text{Ci}/\text{ml}$ of Air (Continuous Samples) |       |         |          |       |           | EASTERN QUADRANT |         |         |               | WESTERN QUADRANT       |             |  |  |
|------------------------------|--|-------|---------|----------|-------|-----------|------------------|---------|---------|---------------|------------------------|-------------|--|--|
|                              | Ringold  | Byers | Landing | Richland | Pasco | Kennewick | Eltopia          | Othello | Connell | Berg<br>Ranch | Wahluke<br>Watermaster | New<br>Moon |  |  |
| 7/5                          | 0.26   | 0.31  | 0.30    | 0.31     | 0.29  | 0.22      | 0.24             | 0.21    | 0.29    | 0.26          | 0.26                   | 0.20        |  |  |
| 7/12                         | 0.26   | 0.24  | 0.26    | 0.27     | 0.44  | 0.22      | 0.24             | 0.21    | 0.29    | 0.26          | 0.26                   | 0.20        |  |  |
| 7/19                         | 0.27   | 0.24  | 0.26    | 0.27     | 0.44  | 0.32      | 0.30             | 0.36    | 0.32    | 0.26          | 0.26                   | 0.25        |  |  |
| 7/26                         | 0.27   | 0.29  | 0.31    | 0.35     | 0.25  | 0.32      | 0.30             | 0.36    | 0.32    | 0.26          | 0.26                   | 0.25        |  |  |
| 8/2                          | 0.24   | 0.29  | 0.31    | 0.35     | 0.25  | 0.27      | 0.27             | 0.18    | 0.32    | 0.21          | 0.18                   |             |  |  |
| 8/9                          | 0.24   | 0.15  | 0.16    | 0.17     | 0.14  | 0.27      | 0.27             | 0.18    | 0.32    | 0.21          | 0.18                   |             |  |  |
| 8/16                         | 0.13   | 0.15  | 0.16    | 0.17     | 0.14  | 0.12      | 0.18             | 0.16    | 0.14    | 0.08          | 0.13                   |             |  |  |
| 8/23                         | 0.13   | 0.16  | 0.14    | 0.13     | 0.13  | 0.12      | 0.18             | 0.16    | 0.14    | 0.08          | 0.13                   |             |  |  |
| 8/30                         | 0.11   | 0.16  | 0.14    | 0.13     | 0.13  | 0.13      | 0.13             | 0.09    | 0.09    | 0.10          | 0.09                   | 0.09        |  |  |
| 9/6                          | 0.11   | 0.08  | 0.09    | 0.10     | 0.08  | 0.13      | 0.09             | 0.09    | 0.10    | 0.08          | 0.08                   | 0.09        |  |  |
| 9/13                         | 0.06   | 0.08  | 0.09    | 0.10     | 0.08  | 0.12      | 0.07             | 0.06    | 0.08    | 0.06          | 0.06                   | 0.08        |  |  |
| 9/20                         | 0.06   | 0.09  | 0.08    | 0.07     | 0.09  | 0.12      | 0.07             | 0.06    | 0.08    | 0.06          | 0.06                   | 0.08        |  |  |
| 9/27                         | 0.12   | 0.09  | 0.08    | 0.07     | 0.09  | 0.08      | 0.08             | 0.11    | 0.10    | 0.08          | 0.08                   | 0.09        |  |  |
| 10/4                         | 0.12   | 0.13  | 0.13    | 0.10     | 0.10  | 0.08      | 0.11             | 0.10    | 0.13    | 0.08          | 0.08                   | 0.09        |  |  |
| 10/11                        | 0.13   | 0.13  | 0.13    | 0.10     | 0.10  | 0.07      | 0.09             | 0.08    | 0.11    | 0.07          | 0.07                   | 0.07        |  |  |
| 10/18                        |  | 0.08  | 0.08    | 0.08     | 0.08  | 0.07      | 0.09             | 0.08    | 0.11    | 0.07          | 0.07                   | 0.07        |  |  |
| 10/25                        | 0.07   | 0.08  | 0.08    | 0.08     | 0.08  | 0.05      | 0.05             | 0.25    | 0.06    | 0.08          | 0.06                   | 0.06        |  |  |
| 11/1                         | 0.07   | 0.09  | 0.10    | 0.07     | 0.10  | 0.05      | 0.25             | 0.06    | 0.08    | 0.13          | 0.08                   | 0.09        |  |  |
| 11/8                         | 0.16   | 0.09  | 0.10    | 0.07     | 0.10  | 0.08      | 0.11             | 0.09    | 0.12    | 0.10          | 0.09                   | 0.09        |  |  |
| 11/15                        | 0.16   | 0.14  | 0.12    | 0.11     | 0.08  | 0.08      | 0.11             | 0.09    | 0.12    | 0.10          | 0.09                   | 0.09        |  |  |
| 11/22                        | 0.05   | 0.14  | 0.12    | 0.11     | 0.08  | 0.04      | 0.11             | 0.09    | 0.04    | 0.04          | 0.04                   | 0.09        |  |  |
| 11/29                        | 0.05   | 0.06  | 0.08    | **       | 0.10  | 0.04      | 0.06             | 0.05    | 0.04    | 0.04          | 0.04                   | 0.04        |  |  |
| 12/6                         | 0.15   | 0.06  | 0.08    | **       | 0.10  | 0.12      | 0.14             | 0.12    | 0.16    | 0.10          | 0.11                   | 0.11        |  |  |
| 12/13                        | 0.15   | 0.07  | 0.15    | 0.14     | 0.07  | 0.12      | 0.14             | 0.12    | 0.16    | 0.10          | 0.11                   | 0.11        |  |  |
| 12/19                        | 0.03   | 0.06  | 0.09    | 0.09     | 0.07  | 0.03      | 0.03             | *       |         |               |                        | 0.03        |  |  |
| Annual Avg.                  | 0.18   | 0.16  | 0.17    | 0.17     | 0.16  | 0.15      | 0.18             | 0.16    | 0.22    | 0.14          | 0.14                   | 0.16        |  |  |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

\* Results were less than the analytical limit of  $0.02 \times 10^{-12} \mu\text{Ci}/\text{ml}$

\*\* Invalid data.

No entry indicates no analysis was made.

## APPENDIX E

TABLE 2 (Part B)

CONCENTRATIONS OF RADIOACTIVE BETA PARTICULATES IN THE AIR  
OF THE HANFORD ENVIRONS - 1972

| Approx.<br>Wk. On<br>Date | Moses<br>Lake | PERIMETER COMMUNITIES |             |               |            |           |
|---------------------------|---------------|-----------------------|-------------|---------------|------------|-----------|
|                           |               | Washtucna             | Walla Walla | McNary<br>Dam | Ellensburg | Sunnyside |
| 12/28                     | 0.12          |                       | 0.07        | 0.12          | 0.06       | 0.09      |
| 1/7                       | 0.11          |                       | 0.07        | 0.12          | 0.09       | 0.06      |
| 1/14                      | 0.11          | 0.09                  | 0.14        | 0.28          | 0.09       | 0.06      |
| 1/21                      | 0.16          | 0.09                  | 0.14        | 0.28          | 0.09       | 0.10      |
| 1/28                      | 0.16          | 0.16                  | 0.13        | 0.22          | 0.14       | 0.10      |
| 2/4                       | 0.15          | 0.16                  | 0.13        | 0.22          | 0.14       | 0.05      |
| 2/11                      | 0.15          | 0.06                  | 0.13        | 0.10          | 0.06       | 0.05      |
| 2/18                      | 0.07          | 0.06                  | 0.06        | 0.10          | 0.06       | 0.08      |
| 2/25                      | 0.07          | 0.06                  | 0.06        | 0.11          | 0.06       | 0.08      |
| 3/3                       | 0.07          | 0.06                  | 0.09        | 0.11          | 0.04       | 0.07      |
| 3/10                      | 0.07          | 0.08                  | 0.09        | 0.12          | 0.04       | 0.07      |
| 3/17                      | 0.20          | 0.08                  | 0.09        | 0.12          | 0.10       | 0.11      |
| 3/24                      | 0.20          | 0.17                  | 0.19        | 0.23          | 0.10       | 0.11      |
| 3/31                      | 0.13          | 0.17                  | 0.06        | 0.23          | 0.07       | 0.16      |
| 4/7                       | 0.13          | 0.09                  | 0.06        | 0.09          | 0.07       | 0.16      |
| 4/14                      | 0.18          | 0.09                  | 0.27        | 0.09          | 0.07       | 0.05      |
| 4/21                      | 0.18          | 0.09                  | 0.27        | 0.06          | 0.07       | 0.05      |
| 4/28                      |               | 0.21                  | 0.28        | 0.06          | 0.14       | 0.16      |
| 5/5                       |               | 0.21                  | 0.28        | 0.14          | 0.14       | 0.16      |
| 5/12                      | 0.22          | 0.32                  | 0.30        | 0.14          | 0.20       | 0.34      |
| 5/19                      | 0.22          | 0.32                  | 0.30        | 3.6           | 0.20       | 0.34      |
| 5/26                      | 0.22          | 0.42                  | 0.45        | 3.6           | 0.20       | 0.37      |
| 6/2                       | **            | 0.42                  | 0.45        | 0.26          | 0.20       | 0.37      |
| 6/9                       | **            | 0.20                  | 0.45        | 0.26          | 0.20       | 0.16      |
| 6/16                      | 0.35          | 0.20                  | 0.19        | 0.19          | 0.16       | 0.16      |
| 6/23                      | 0.26          | 0.24                  | 0.19        | 0.19          | 0.16       | 0.18      |
| 6/30                      | 0.26          | 0.24                  | 0.26        | 0.31          | 0.16       | 0.18      |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

No entry indicates no analysis was made.

\*\* Invalid data.

## APPENDIX E

TABLE 2 (Part B Continued)

CONCENTRATIONS OF RADIOACTIVE BETA PARTICULATES IN THE AIR  
OF THE HANFORD ENVIRONS - 1972

| Approx.<br>Wk. On<br>Date | Moses<br>Lake | <u>PERIMETER COMMUNITIES</u> |             |               |            |           |
|---------------------------|---------------|------------------------------|-------------|---------------|------------|-----------|
|                           |               | Washtucna                    | Walla Walla | McNary<br>Dam | Ellensburg | Sunnyside |
| 7/7                       | 0.20          | 0.24                         | 0.26        | 0.31          | 0.16       | 0.26      |
| 7/14                      | 0.20          | 0.24                         | 0.26        | 0.29          | 0.16       | 0.26      |
| 7/21                      |               | 0.22                         | 0.29        | 0.29          | 0.19       | 0.22      |
| 7/28                      |               | 0.22                         | 0.29        | 0.22          | 0.19       | 0.22      |
| 8/4                       | 0.15          | 0.12                         | 0.17        | 0.22          | 0.19       | 0.18      |
| 8/11                      | 0.15          | 0.12                         | 0.17        | 0.13          | 0.19       | 0.18      |
| 8/18                      | 0.11          | 0.12                         | 0.14        | 0.13          | 0.11       | 0.12      |
| 8/25                      | 0.11          | 0.10                         | 0.14        | **            | 0.11       | 0.12      |
| 9/1                       | 0.07          | 0.10                         | 0.08        | **            | 0.07       | 0.08      |
| 9/8                       | 0.07          | 0.06                         | 0.08        | 0.07          | 0.07       | 0.08      |
| 9/15                      | 0.04          | 0.06                         | 0.02        | 0.07          | 0.04       | 0.06      |
| 9/22                      | 0.04          |                              | 0.02        | 0.04          | 0.04       | 0.06      |
| 9/29                      | 0.10          |                              | 0.03        | 0.04          | 0.04       | 0.06      |
| 10/6                      | 0.10          |                              | 0.03        | 0.13          | 0.04       | 0.06      |
| 10/13                     | 0.08          |                              | 0.06        | 0.13          | 0.04       | 0.08      |
| 10/20                     | 0.08          |                              | 0.06        | 0.07          | 0.04       | 0.08      |
| 10/27                     | 0.08          |                              | 0.06        | 0.07          | 0.04       | *         |
| 11/3                      | 0.08          |                              | 0.07        | 0.11          | 0.04       | *         |
| 11/10                     | 0.08          |                              | 0.07        | 0.11          | 0.04       | 0.07      |
| 11/17                     | 0.08          |                              | 0.04        | 0.09          | 0.04       | 0.07      |
| 11/25                     | 0.04          |                              | 0.04        | 0.09          | 0.04       | 0.05      |
| 12/1                      | 0.04          |                              | 0.09        | 0.12          | 0.04       | 0.05      |
| 12/8                      | 0.13          |                              | 0.09        | 0.12          | 0.11       | *         |
| 12/15                     | 0.13          |                              | 0.02        | 0.10          | 0.11       | *         |
| 12/22                     | 0.03          |                              | 0.02        | 0.10          | 0.02       | *         |
| Annual<br>Average         | 0.14          | 0.16                         | 0.15        | 0.29          | 0.10       | 0.12      |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

No entry indicates no analysis was made.

\* Results were less than the analytical limit of  $0.02 \times 10^{-12} \mu\text{Ci}/\text{ml}$ .

\*\* Invalid data.

## APPENDIX E

TABLE 3 (Part A)

CONCENTRATIONS OF RADIOACTIVE ALPHA PARTICULATES IN THE AIR  
OF THE HANFORD ENVIRONS - 1972

| Approx.<br>Wk. On<br>Date | Units of $10^{-12}$ $\mu\text{Ci}/\text{ml}$ of Air (Continuous Samples) |                  |          |       |         | Berg<br>Ranch |
|---------------------------|--|------------------|----------|-------|---------|---------------|
|                           | Ringold  | Byers<br>Landing | Richland | Pasco | Othello |               |
| 12/29                     | 0.003  | 0.001            | 0.001    | 0.001 | 0.001   | 0.004         |
| 1/5                       | 0.002  | 0.001            | 0.001    | 0.001 | 0.002   | 0.003         |
| 1/12                      | 0.002  | 0.002            | 0.002    | 0.002 | 0.002   | 0.003         |
| 1/19                      | 0.003  | 0.002            | 0.002    | 0.002 | 0.003   | 0.003         |
| 1/26                      | 0.003  | 0.005            | 0.005    | *     | 0.003   | 0.003         |
| 2/2                       | 0.002  | 0.005            | 0.005    | *     | 0.002   | 0.003         |
| 2/9                       | 0.002  | 0.002            | 0.002    | 0.002 | 0.002   | 0.003         |
| 2/16                      | 0.002  | 0.002            | 0.002    | 0.002 | *       | 0.002         |
| 2/23                      | 0.002  | 0.002            | 0.002    | 0.001 | *       | 0.002         |
| 3/1                       | 0.001  | 0.002            | 0.002    | 0.001 | 0.001   | 0.002         |
| 3/8                       | 0.001  | 0.001            | 0.002    | 0.001 | 0.001   | 0.002         |
| 3/15                      | 0.002  | 0.001            | 0.002    | 0.001 | 0.002   | 0.002         |
| 3/22                      | 0.002  | 0.002            | 0.002    | 0.002 | 0.002   | 0.002         |
| 3/29                      | 0.002  | 0.002            | 0.002    | 0.002 | 0.001   | *             |
| 4/5                       | 0.002  | 0.001            | 0.002    | 0.002 | 0.001   | *             |
| 4/12                      | 0.001  | 0.001            | 0.002    | 0.002 | 0.001   | *             |
| 4/19                      | 0.001  | 0.001            | 0.002    | 0.002 | 0.001   | *             |
| 4/26                      | 0.001  | 0.001            | 0.002    | 0.002 | 0.002   | 0.002         |
| 5/3                       | 0.001  | 0.002            | 0.002    | 0.001 | 0.002   | 0.002         |
| 5/10                      | 0.003  | 0.002            | 0.002    | 0.001 | 0.003   | 0.004         |
| 5/17                      | 0.003  | 0.001            | 0.001    | 0.002 | 0.003   | 0.004         |
| 5/24                      | *  | 0.001            | 0.001    | 0.002 | 0.002   | 0.002         |
| 5/31                      | *  | 0.002            | 0.002    | 0.002 | 0.002   | 0.002         |
| 6/7                       | *  | 0.002            | 0.002    | 0.002 | *       | *             |
| 6/14                      | *  | *                | 0.001    | 0.001 | *       | *             |
| 6/21                      | *  | *                | 0.001    | 0.001 | 0.001   | *             |
| 6/28                      | *  | *                | 0.001    | *     | 0.001   | *             |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

\* Indicates the result was less than the analytical limit of  $0.001 \times 10^{-12} \mu\text{Ci}/\text{ml}$ .

No entry indicates no analysis was made.

## APPENDIX E

TABLE 3 (Part A Continued)

CONCENTRATIONS OF RADIOACTIVE ALPHA PARTICULATES IN THE AIR  
OF THE HANFORD ENVIRONS - 1972Units of  $10^{-12}$   $\mu\text{Ci}/\text{ml}$  of Air (Continuous Samples)EASTERN QUADRANT

| Approx.<br>Wk. On<br>Date | <u>Ringold</u> | <u>Byers<br/>Landing</u> | <u>Richland</u> | <u>Pasco</u> | <u>Othello</u> | <u>Berg<br/>Ranch</u> |
|---------------------------|----------------|--------------------------|-----------------|--------------|----------------|-----------------------|
| 7/5                       | 0.002          | *                        | 0.001           | *            | *              | 0.001                 |
| 7/12                      | 0.002          | 0.001                    | 0.001           | 0.001        | *              | 0.001                 |
| 7/19                      | 0.002          | 0.001                    | 0.001           | 0.001        | 0.001          | 0.001                 |
| 7/26                      | 0.002          | 0.001                    | 0.002           | 0.002        | 0.001          | 0.001                 |
| 8/2                       | 0.002          | 0.001                    | 0.002           | 0.002        | 0.002          | 0.001                 |
| 8/9                       | 0.002          | *                        | 0.001           | *            | 0.002          | 0.001                 |
| 8/16                      | 0.001          | *                        | 0.001           | *            | 0.001          | 0.001                 |
| 8/23                      | 0.001          | 0.002                    | 0.001           | 0.002        | 0.001          | 0.001                 |
| 8/30                      | 0.002          | 0.002                    | 0.001           | 0.002        | 0.002          | 0.002                 |
| 9/6                       | 0.002          | 0.001                    | 0.001           | 0.002        | 0.002          | 0.002                 |
| 9/13                      | 0.002          | 0.001                    | 0.001           | 0.002        | 0.002          | 0.001                 |
| 9/20                      | 0.002          | 0.002                    | 0.002           | 0.002        | 0.002          | 0.001                 |
| 9/27                      | 0.002          | 0.002                    | 0.002           | 0.002        |                | 0.002                 |
| 10/4                      | 0.002          | 0.002                    | 0.002           | 0.002        |                | 0.002                 |
| 10/11                     |                | 0.002                    | 0.002           | 0.002        | *              | 0.003                 |
| 10/18                     |                | 0.001                    | 0.002           | 0.002        | *              | 0.003                 |
| 10/25                     | 0.002          | 0.001                    | 0.002           | 0.002        | 0.002          | 0.002                 |
| 11/1                      | 0.002          | 0.002                    | 0.002           | 0.002        | 0.002          | 0.002                 |
| 11/8                      | 0.003          | 0.002                    | 0.002           | 0.002        | 0.003          | 0.002                 |
| 11/15                     | 0.003          | 0.002                    | 0.003           | 0.004        | 0.003          | 0.002                 |
| 11/22                     | 0.002          | 0.002                    | 0.003           | 0.004        | 0.003          | 0.002                 |
| 11/29                     | 0.002          | 0.002                    | 0.002           | 0.002        | 0.004          | 0.002                 |
| 12/6                      | 0.006          | 0.002                    | 0.002           | 0.002        | 0.006          | 0.006                 |
| 12/13                     | 0.006          | 0.006                    | 0.004           | 0.005        | 0.006          | 0.006                 |
| 12/19                     | *              | 0.006                    | 0.004           | 0.005        | 0.001          | *                     |
| Annual<br>Average         | 0.002          | 0.002                    | 0.002           | 0.002        | 0.002          | 0.002                 |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

\* Indicates the result was less than the analytical limit of  $0.001 \times 10^{-12} \mu\text{Ci}/\text{ml}$ .

No entry indicates no analysis was made.

## APPENDIX E

TABLE 3 (Part B)

CONCENTRATIONS OF RADIOACTIVE ALPHA PARTICULATES IN THE AIR  
OF THE HANFORD ENVIRONS - 1972Units of  $10^{-12}$   $\mu\text{Ci}/\text{ml}$  of Air (Continuous Samples)PERIMETER COMMUNITIES

| Approx.<br>Wk. On<br><u>Date</u> | <u>Walla Walla</u> | McNary<br>Dam | Approx.<br>Wk. On<br><u>Date</u> | <u>Walla Walla</u> | McNary<br>Dam |
|----------------------------------|--------------------|---------------|----------------------------------|--------------------|---------------|
| 12/31                            | 0.001              | 0.001         | 7/7                              | *                  | 0.001         |
| 1/7                              | 0.001              | 0.001         | 7/14                             | *                  | 0.002         |
| 1/14                             | 0.002              | 0.001         | 7/21                             | *                  | 0.002         |
| 1/21                             | 0.002              | 0.001         | 7/28                             | *                  | 0.001         |
| 1/28                             |                    | 0.005         | 8/4                              | 0.001              | 0.001         |
| 2/4                              |                    | 0.005         | 8/11                             | 0.001              | 0.001         |
| 2/11                             |                    | 0.001         | 8/18                             | 0.002              | 0.001         |
| 2/18                             | *                  | 0.001         | 8/25                             | 0.002              | **            |
| 2/25                             | *                  | 0.002         | 9/1                              | 0.001              | **            |
| 3/3                              | *                  | 0.002         | 9/8                              | 0.001              | 0.001         |
| 3/10                             | *                  | 0.002         | 9/15                             | *                  | 0.001         |
| 3/17                             | *                  | 0.002         | 9/22                             | *                  | 0.001         |
| 3/24                             | 0.003              | 0.001         | 9/29                             | 0.001              | 0.001         |
| 3/31                             | *                  | 0.001         | 10/6                             | 0.001              | 0.003         |
| 4/7                              | *                  | 0.002         | 10/13                            | *                  | 0.003         |
| 4/14                             |                    | 0.002         | 10/20                            | *                  |               |
| 4/21                             |                    | 0.002         | 10/27                            | *                  |               |
| 4/28                             | 0.002              | 0.002         | 11/3                             | 0.001              | 0.002         |
| 5/5                              | 0.002              | 0.002         | 11/10                            | 0.001              | 0.002         |
| 5/12                             | 0.002              | 0.002         | 11/17                            | 0.001              | 0.003         |
| 5/19                             | 0.002              | 0.002         | 11/24                            | 0.001              | 0.003         |
| 5/26                             | 0.001              | 0.002         | 12/1                             | 0.004              | 0.006         |
| 6/2                              | 0.001              | *             | 12/8                             | 0.004              | 0.006         |
| 6/9                              | 0.001              | *             | 12/15                            | *                  | 0.002         |
| 6/16                             | *                  | 0.001         | 12/22                            | *                  | 0.002         |
| 6/23                             | *                  | 0.001         | Annual<br>Average                | 0.001              | 0.002         |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

\* Indicates the result was less than the analytical limit of  $0.001 \times 10^{-12} \mu\text{Ci}/\text{ml}$ .

\*\* Invalid data.

No entry indicates no analysis was made.

## APPENDIX E

TABLE 4  
CONCENTRATIONS OF GAMMA-EMITTING RADIONUCLIDES ON SELECTED AIR FILTER COMPOSITES - 1972

| Date                            | <u>60</u> <sub>Co</sub> | <u>90</u> <sub>Sr</sub> | <u>95</u> <sub>ZrNb</sub> | Units of $10^{-12}$ $\mu\text{Ci}/\text{ml}$ of Air (Continuous Samples) | <u>103</u> <sub>Ru</sub> | <u>106</u> <sub>Ru</sub> | <u>134</u> <sub>Cs</sub> | <u>137</u> <sub>Cs-137m</sub> <sub>Ba</sub> | <u>140</u> <sub>BaLa</sub> | <u>141</u> <sub>Ce</sub> | <u>144</u> <sub>CePr</sub> | Total Pu |
|---------------------------------|-------------------------|-------------------------|---------------------------|--|--------------------------|--------------------------|--------------------------|---|----------------------------|--------------------------|----------------------------|----------|
| <u>Inner Northeast Quadrant</u> |                         |                         |                           |  |                          |                          |                          |   |                            |                          |                            |          |
| 1/21                            | *                       | 0.002                   | 0.004                     | *  | 0.14                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 2/18                            | 0.01                    | *                       | 0.004                     | *  | 0.28                     | *                        | *                        | *   | *                          | *                        | 0.03                       | 0.02     |
| 3/31                            | *                       | *                       | 0.004                     | *  | 0.19                     | *                        | 0.003                    | *   | *                          | *                        | *                          | 0.00009  |
| 4/28                            | *                       | *                       | 0.04                      | *  | 0.29                     | *                        | *                        | *   | *                          | *                        | 0.08                       | 0.02     |
| 5/26                            | *                       | *                       | 0.16                      | 0.03   | 0.03                     | *                        | *                        | *   | *                          | 0.03                     | *                          | 0.00002  |
| 6/23                            | *                       | *                       | 0.10                      | *  | 0.41                     | *                        | 0.005                    | *   | *                          | *                        | 0.13                       | 0.00002  |
| 7/21                            | 0.01                    | *                       | 0.06                      | *  | 0.50                     | *                        | *                        | *   | *                          | *                        | 0.08                       | 0.00002  |
| 8/31                            | *                       | *                       | 0.04                      | *  | 0.39                     | *                        | 0.002                    | *   | *                          | *                        | 0.06                       | 0.00003  |
| 9/29                            | *                       | 0.002                   | 0.01                      | *  | 0.25                     | *                        | 0.002                    | *   | *                          | *                        | 0.02                       | 0.00003  |
| 10/27                           | *                       | *                       | 0.002                     | *  | 0.21                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 11/28                           | 0.002                   | *                       | *                         | *  | 0.11                     | *                        | *                        | *   | *                          | *                        | *                          | 0.00005  |
| 12/22                           | *                       | *                       | *                         | *  | 0.12                     | *                        | *                        | *   | *                          | *                        | *                          | 0.00002  |
| Annual Average                  | 0.002                   | *0.0008                 | 0.04                      | 0.002  | 0.24                     | *                        | *0.0007                  | *   | 0.003                      | 0.04                     | 0.00005                    | 0.00002  |
| <u>Inner Southeast Quadrant</u> |                         |                         |                           |  |                          |                          |                          |   |                            |                          |                            |          |
| 1/28                            | *                       | 0.003                   | 0.004                     | *  | 0.15                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 2/25                            | 0.003                   | *                       | 0.003                     | *  | 0.19                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 3/29                            | *                       | *                       | 0.003                     | *  | 0.15                     | *                        | 0.002                    | *   | *                          | *                        | 0.02                       | *        |
| 4/26                            | 0.01                    | *                       | 0.01                      | *  | 0.35                     | *                        | *                        | *   | *                          | *                        | 0.04                       | *        |
| 5/30                            | *                       | *                       | 0.001                     | 0.09   | 0.02                     | 0.03                     | *                        | *   | *                          | *                        | 0.008                      | 0.09     |
| 6/30                            | *                       | *                       | 0.001                     | 0.10   | *                        | 0.54                     | *                        | 0.004                                       | *                          | *                        | 0.11                       | 0.00001  |
| 7/28                            | 0.01                    | *                       | 0.07                      | *  | 0.65                     | *                        | *                        | *   | *                          | *                        | 0.10                       | *        |
| 8/30                            | *                       | *                       | 0.04                      | *  | 0.39                     | *                        | 0.002                    | *   | *                          | *                        | 0.08                       | 0.00006  |
| 9/27                            | *                       | 0.002                   | 0.01                      | *  | 0.32                     | *                        | 0.005                    | *   | *                          | *                        | 0.05                       | *        |
| 10/30                           | *                       | *                       | 0.001                     | *  | 0.20                     | *                        | 0.003                    | *   | *                          | *                        | *                          | *        |
| 11/27                           | *                       | *                       | *                         | *  | 0.09                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 12/29                           | *                       | 0.0002                  | *                         | *  | 0.10                     | *                        | *                        | *   | *                          | *                        | *                          | 0.00006  |
| Annual Average                  | 0.003                   | 0.001                   | 0.03                      | 0.002  | 0.26                     | *0.0009                  | *0.001                   | *   | *0.0007                    | 0.04                     | 0.00002                    | 0.00002  |

\* Indicates the results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX E

TABLE 4 (Continued)  
CONCENTRATIONS OF GAMMA-EMITTING RADIONUCLIDES ON SELECTED AIR FILTER COMPOSITES - 1972

| Date                            | <u>60</u> <sub>Co</sub> | <u>90</u> <sub>Sr</sub> | <u>95</u> <sub>ZrNb</sub> | Units of $10^{-12}$ $\mu\text{Ci}/\text{ml}$ of Air (Continuous Samples) | <u>103</u> <sub>Ru</sub> | <u>106</u> <sub>Ru</sub> | <u>134</u> <sub>Cs</sub> | <u>137</u> <sub>Cs</sub> - <u>137</u> <sub>m</sub><br><u>Ba</u> | <u>140</u> <sub>BaLa</sub> | <u>141</u> <sub>Ce</sub> | <u>144</u> <sub>CePr</sub> | Total Pu |
|---------------------------------|-------------------------|-------------------------|---------------------------|--|--------------------------|--------------------------|--------------------------|---|----------------------------|--------------------------|----------------------------|----------|
| <u>Outer Western Quadrant</u>   |                         |                         |                           |  |                          |                          |                          |   |                            |                          |                            |          |
| 1/31                            | *                       |                         | 0.003                     | *  | 0.11                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 2/28                            | *                       | *                       | 0.004                     | *  | 0.11                     | *                        | *                        | *   | *                          | *                        | *                          | 0.000005 |
| 3/29                            | *                       | *                       | 0.004                     | *  | 0.13                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 4/10                            | *                       | *                       | 0.006                     | 0.02   | 0.26                     | *                        | *                        | *   | *                          | 0.02                     | *                          | *        |
| 5/22                            | *                       | 0.001                   | 0.007                     | *  | 0.37                     | *                        | *                        | *   | *                          | *                        | 0.10                       | 0.00001  |
| 6/19                            | *                       |                         | 0.001                     | 0.05   | 0.37                     | *                        | *                        | *   | *                          | *                        | 0.08                       |          |
| 7/21                            | *                       |                         |                           | *  | 0.39                     | *                        | 0.04                     | *   | *                          | *                        | 0.08                       |          |
| 8/28                            | *                       |                         | 0.002                     | 0.01   | 0.36                     | *                        | *                        | *   | *                          | *                        | 0.08                       | 0.00003  |
| 9/15                            | *                       |                         |                           | *  | 0.14                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 10/14                           | *                       |                         |                           |  | 0.07                     | *                        | *                        | *   | *                          | *                        | *                          |          |
| 11/22                           | 0.004                   |                         | 0.0004                    | *  | 0.07                     | *                        | *                        | *   | *                          | *                        | *                          | 0.00006  |
| 12/22                           | *0.001                  | 0.001                   | 0.02                      | *0.001   | 0.20                     | *                        | *0.0007                  | *   | *0.001                     | *0.04                    | 0.00003                    |          |
| Annual Average                  |                         |                         |                           |  |                          |                          |                          |   |                            |                          |                            |          |
| <u>Outer Southeast Quadrant</u> |                         |                         |                           |  |                          |                          |                          |   |                            |                          |                            |          |
| 1/28                            | 0.003                   |                         | 0.01                      | *  | 0.20                     | *                        | *                        | *   | *                          | 0.04                     | *                          |          |
| 2/25                            | 0.02                    | *                       | 0.005                     | *  | 0.30                     | *                        | *                        | 0.005   | *                          | *                        | *                          | 0.000009 |
| 3/20                            | *                       | *                       | 0.005                     | *  | 0.12                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 4/21                            | *                       |                         | 0.003                     | *  | 0.18                     | *                        | *                        | *   | *                          | *                        | 0.16                       | 0.00003  |
| 5/26                            | *                       |                         | 0.008                     | 0.02   | *                        | *                        | *                        | *   | *                          | *                        | 0.14                       | 0.00003  |
| 6/30                            | *                       | *                       | 0.12                      | *  | 0.42                     | *                        | *                        | *   | *                          | *                        | 0.10                       | 0.07     |
| 7/28                            | *                       |                         | 0.06                      | *  | 0.60                     | *                        | *                        | *   | *                          | *                        | 0.25                       | 0.12     |
| 8/25                            | *                       |                         | 0.03                      | *  | 0.46                     | *                        | *                        | *   | *                          | *                        | *                          | *        |
| 9/22                            | *                       | 0.002                   | 0.007                     | *  | 0.22                     | 0.02                     | 0.009                    | *   | *                          | *                        | *                          |          |
| 10/20                           | *                       |                         | *                         | *  | 0.12                     | *                        | *                        | *   | *                          | *                        | *                          |          |
| 11/17                           | 0.004                   | *                       | *                         | *  | 0.16                     | *                        | *                        | 0.14  | *                          | *                        | *                          | 0.000006 |
| 12/29                           | *                       | 0.001                   | *                         | *  | 0.09                     | *                        | *                        | 0.03  | *                          | 0.06                     | 0.00002                    |          |
| Annual Average                  | 0.002                   | *0.0008                 | 0.03                      | *0.001   | 0.24                     | *0.003                   | *0.001                   | 0.03  | *                          |                          |                            |          |

\* Indicates the results were less than the analytical limit.

No entry indicates no analysis was made.

## APPENDIX E

TABLE 4 (Continued)  
 CONCENTRATIONS OF GAMMA-EMITTING RADIONUCLIDES ON SELECTED AIR FILTER COMPOSITES - 1972

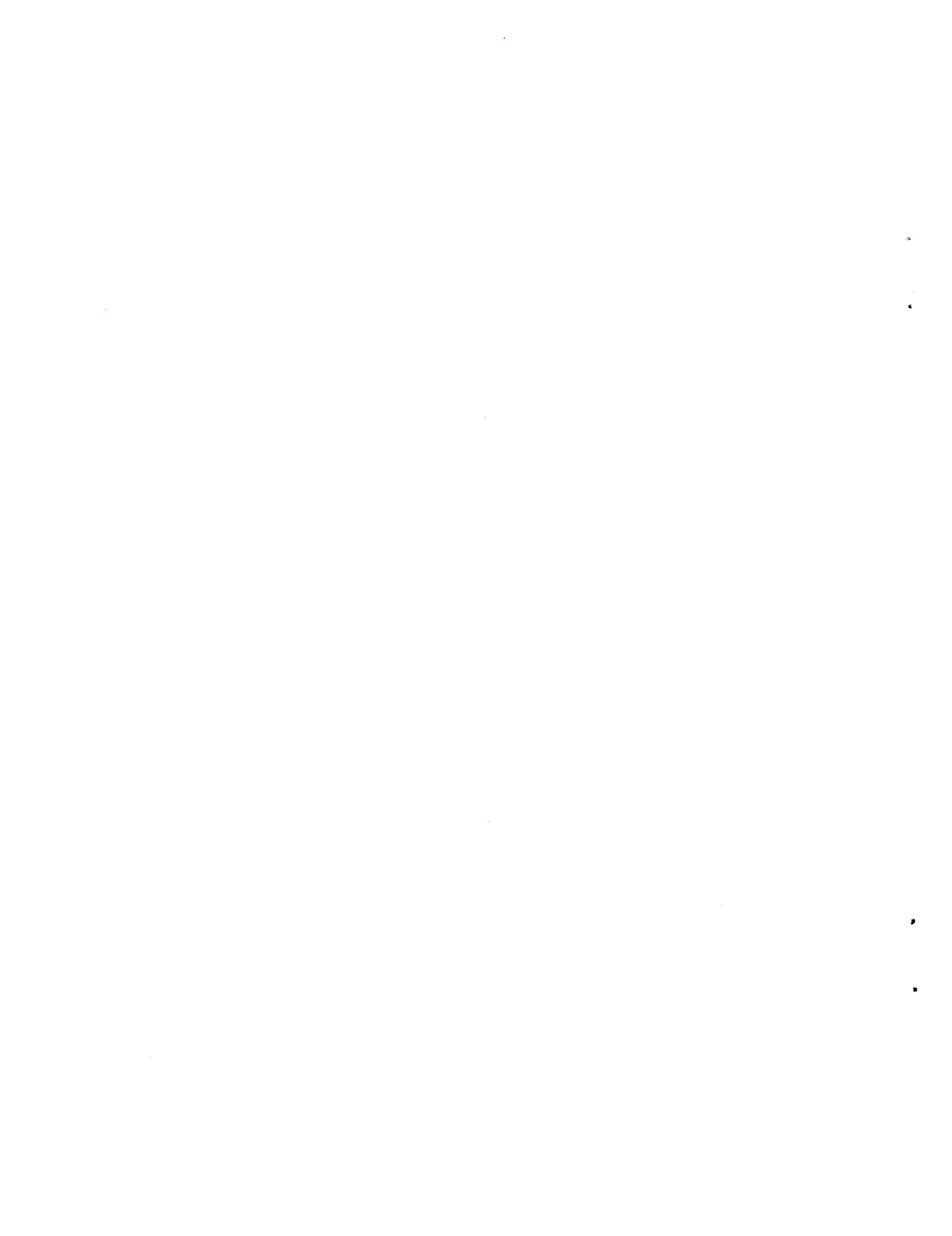
| Date                     | <u>60</u> <sub>Co</sub> | <u>65</u> <sub>Zn</sub> | <u>90</u> <sub>Sr</sub> | <u>95</u> <sub>ZrNb</sub> | <u>103</u> <sub>Ru</sub> | <u>106</u> <sub>Ru</sub> | <u>134</u> <sub>Cs</sub> | <u>137</u> <sub>Cs</sub> - <u>137m</u> <sub>Ba</sub> | <u>140</u> <sub>BaLa</sub> | <u>141</u> <sub>Ce</sub> | <u>144</u> <sub>CePr</sub> | Total Pu |
|--------------------------|-------------------------|-------------------------|-------------------------|---------------------------|--------------------------|--------------------------|--------------------------|--|----------------------------|--------------------------|----------------------------|----------|
| Outer Northeast Quadrant |                         |                         |                         |                           |                          |                          |                          |  |                            |                          |                            |          |
| 1/28                     | *                       | *                       | *                       | 0.005                     | *                        | 0.12                     | *                        | *  | *                          | *                        | *                          | *        |
| 2/25                     | *                       | *                       | *                       | *                         | *                        | 0.17                     | *                        | *  | *                          | *                        | *                          | *        |
| 3/24                     | *                       | *                       | *                       | *                         | *                        | 0.15                     | *                        | *  | *                          | *                        | *                          | 0.000004 |
| 4/14                     | *                       | *                       | *                       | 0.02                      | *                        | 0.28                     | *                        | *  | *                          | 0.02                     | *                          | *        |
| 5/30                     | *                       | *                       | *                       | 0.05                      | 0.02                     | 0.04                     | *                        | *  | *                          | *                        | *                          | 0.000002 |
| 6/20                     | *                       | *                       | 0.001                   | 0.10                      | *                        | 0.47                     | *                        | *  | *                          | *                        | *                          | 0.18     |
| 7/21                     | *                       | *                       | *                       | 0.06                      | *                        | 0.39                     | *                        | *  | *                          | *                        | *                          | 0.10     |
| 8/24                     | *                       | *                       | *                       | 0.03                      | *                        | 0.34                     | *                        | *  | *                          | *                        | *                          | 0.07     |
| 9/21                     | *                       | *                       | 0.001                   | 0.01                      | *                        | *                        | *                        | 0.004  | 0.27                       | *                        | *                          | 0.07     |
| 10/27                    | *                       | *                       | *                       | 0.004                     | *                        | 0.20                     | *                        | *  | *                          | *                        | *                          | *        |
| 11/22                    | 0.03                    | *                       | *                       | *                         | *                        | 0.12                     | *                        | *  | *                          | *                        | *                          | *        |
| 12/22                    | *                       | 0.04                    | 0.0008                  | *                         | *                        | *                        | *                        | 0.007  | 1.2                        | *                        | *                          | 0.00001  |
| Annual Average           | *                       | *0.00008                | 0.001                   | 0.02                      | 0.002                    | 0.17                     | *                        | *  | 0.14                       | *0.002                   | 0.05                       | 0.00002  |

\* Indicates the results were less than the analytical limit.  
 No entry indicates no analysis was made.

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BNWL-1727 ADD

APPENDIX F



## APPENDIX F

TABLE 1  
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972

| Date                                  | <u>40</u> <sub>K</sub> | <u>65</u> <sub>Zn</sub> | <u>89</u> <sub>Sr</sub> | <u>90</u> <sub>Sr</sub> | <u>131</u> <sub>I</sub> | <u>137</u> <sub>Cs</sub> - <u>137</u> <sup>m</sup> <sub>Ba</sub> |
|---------------------------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--|
| Analy.                                | 400                    | 50                      | 2                       | 2                       | 2                       | 30   |
| Limit                                 |                        |                         |                         |                         |                         |  |
| Riverview Irrigation District-Farm #1 |                        |                         |                         |                         |                         |  |
| 1/10                                  | 1200                   | *                       |                         |                         | *                       | *  |
| 1/24                                  | 1100                   | *                       | *                       | *                       | *                       | *  |
| 2/7                                   | 1000                   | *                       |                         |                         | *                       | *  |
| 2/22                                  | 1300                   | *                       |                         |                         | *                       | *  |
| 3/9                                   | 1200                   | *                       |                         |                         | *                       | *  |
| 3/20                                  | 1300                   | *                       |                         |                         | *                       | *  |
| 4/3                                   | 1300                   | *                       |                         |                         | *                       | *  |
| 4/17                                  | 1300                   | *                       | *                       | 2.3                     | *                       | *  |
| 5/1                                   | 960                    | *                       |                         |                         | *                       | *  |
| 5/15                                  | 1100                   | *                       |                         |                         | *                       | *  |
| 5/30                                  | 1200                   | *                       |                         |                         | *                       | *  |
| 6/12                                  | 1300                   | *                       |                         |                         | *                       | *  |
| 6/26                                  | 1100                   | *                       |                         |                         | *                       | *  |
| 7/10                                  | 740                    | *                       | *                       | 4.4                     | *                       | *  |
| 7/24                                  | 1000                   | *                       |                         |                         | *                       | *  |
| 8/7                                   | 1500                   | *                       |                         |                         | *                       | *  |
| 8/21                                  | 860                    | *                       |                         |                         | *                       | *  |
| 9/5                                   | 940                    | *                       |                         |                         | *                       | *  |
| 9/18                                  | 1200                   | *                       |                         |                         | *                       | *  |
| 10/2                                  | 1500                   | *                       | 2.1                     | 2.8                     | *                       | 31.  |
| 10/16                                 | 1900                   | 92.                     |                         |                         | *                       | 49.  |
| 10/30                                 | 1100                   | *                       |                         |                         | *                       | *  |
| 11/13                                 | 1300                   | *                       |                         |                         | *                       | *  |
| 11/27                                 | 900                    | *                       |                         |                         | *                       | *  |
| 12/11                                 | 940                    | *                       |                         |                         | *                       | *  |
| 12/21                                 | 1000                   | *                       |                         |                         | *                       | *  |
| Annual Average                        | 1100                   | 16.                     | *0.8                    | 2.6                     | 0.96                    | 14.  |

\* Indicates the results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX F

TABLE 1 (Continued)  
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972  
 Units of  $10^{-9}$   $\mu\text{Ci}/\text{ml}$  of Milk

| Date                               | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| Analy.<br>Limit                    | 400                               | 50                                 | 2                                  | 2                                  | 30   |
| <u>Columbia River Composite #2</u> |                                   |                                    |                                    |                                    |  |
| 1/13                               | 1200                              | *                                  |                                    | *                                  | *  |
| 1/27                               | 1200                              | *                                  |                                    | *                                  | *  |
| 2/10                               | 1200                              | *                                  | 2.1                                | *                                  | *  |
| 2/14                               | 1200                              | *                                  |                                    | *                                  | *  |
| 3/9                                | 1400                              | *                                  |                                    | *                                  | *  |
| 3/23                               | 1400                              | 67.                                |                                    | *                                  | *  |
| 4/6                                | 1000                              | *                                  |                                    | 5.4                                | *  |
| 4/20                               | 1300                              | *                                  |                                    | *                                  | *  |
| 5/4                                | 1200                              | *                                  | 2.3                                | *                                  | *  |
| 5/18                               | 1200                              | *                                  |                                    | *                                  | *  |
| 6/1                                | 1200                              | *                                  |                                    | *                                  | *  |
| 6/15                               | 1200                              | *                                  |                                    | *                                  | *  |
| 6/29                               | 1400                              | *                                  |                                    | *                                  | *  |
| 7/13                               | 1000                              | *                                  |                                    | *                                  | *  |
| 7/27                               | 1100                              | *                                  |                                    | *                                  | *  |
| 8/10                               | 1400                              | *                                  | *                                  | *                                  | *  |
| 8/24                               | 1100                              | *                                  |                                    | *                                  | *  |
| 9/7                                | 1200                              | *                                  |                                    | *                                  | *  |
| 9/21                               | 1300                              | *                                  |                                    |                                    | *  |
| 10/5                               | 1000                              | *                                  |                                    | *                                  | *  |
| 10/19                              | 1400                              | *                                  |                                    | *                                  | 33.  |
| 11/2                               | 890                               | *                                  | *                                  | *                                  | *  |
| 11/16                              | 1000                              | *                                  |                                    | *                                  | *  |
| 11/30                              | 1100                              | *                                  |                                    | *                                  | *  |
| 12/14                              | 1100                              | *                                  |                                    | *                                  | *  |
| 12/28                              | 1000                              | *                                  |                                    | *                                  | *  |
| Annual<br>Average                  | 1200                              | *9.4                               | 1.6                                | 1.1                                | 11.  |

\* Indicates the results were less than the analytical limit.  
 No entry indicates no analysis was made.

## APPENDIX F

TABLE 1 (Continued)  
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972

Units of  $10^{-9} \mu\text{Ci/ml}$  of Milk

| Date                               | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|--|
| Analy.                             | 400                               | 50                                 | 2                                  | 30   |
| Limit                              |                                   |                                    |                                    |  |
| <u>Columbia Basin Composite #3</u> |                                   |                                    |                                    |  |
| 1/6                                | 1200                              | *                                  | *                                  | *  |
| 1/20                               | 1200                              | *                                  | *                                  | *  |
| 2/3                                | 1300                              | *                                  | *                                  | *  |
| 2/17                               | 1100                              | *                                  | *                                  | *  |
| 3/2                                | 1400                              | *                                  | *                                  | *  |
| 3/16                               | 1400                              | *                                  | *                                  | *  |
| 3/30                               | 1200                              | *                                  | *                                  | *  |
| 4/13                               | *                                 | *                                  | *                                  | *  |
| 4/27                               | 1000                              | *                                  | *                                  | *  |
| 5/11                               | 1100                              | *                                  | *                                  | *  |
| 5/25                               | 1000                              | *                                  | *                                  | *  |
| 6/8                                | 1200                              | *                                  | *                                  | *  |
| 6/22                               | 1100                              | *                                  | *                                  | *  |
| 7/6                                | 1000                              | *                                  | *                                  | *  |
| 7/20                               | 1100                              | *                                  | *                                  | *  |
| 8/3                                | 1600                              | *                                  | *                                  | *  |
| 8/17                               | 1300                              | *                                  | *                                  | *  |
| 8/31                               | 1200                              | *                                  | *                                  | *  |
| 9/14                               | 1300                              | *                                  | *                                  | 33.  |
| 9/28                               | 1400                              | *                                  | *                                  | *  |
| 10/12                              | 1300                              | *                                  | *                                  | 32.  |
| 10/26                              | 1200                              | *                                  | *                                  | *  |
| 11/9                               | 1200                              | *                                  | *                                  | *  |
| 11/27                              | 1100                              | *                                  | *                                  | *  |
| 12/7                               | 1300                              | *                                  | *                                  | *  |
| 12/21                              | 1400                              | *                                  | *                                  | *  |
| Annual Average                     | 1200                              | *8.2                               | 0.9                                | 12.  |

\* Indicates the results were less than the analytical limit.

## APPENDIX F

TABLE 1 (Continued)  
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972  
 Units of  $10^{-9} \mu\text{Ci/ml}$  in Milk

| <u>Date</u>         | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
|---------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| Analy.<br>Limit     | 400                               | 50                                 | 2                                  | 2                                  | 30   |
| Benton City-Farm #2 |                                   |                                    |                                    |                                    |  |
| 1/6                 | 1400                              | *                                  |                                    | 2.0                                | *  |
| 1/20                | 910                               | *                                  |                                    | 2.1                                | *  |
| 2/3                 | 1300                              | *                                  |                                    | *                                  | *  |
| 2/17                | 1000                              | *                                  |                                    | *                                  | *  |
| 3/2                 | 1500                              | *                                  | 3.9                                | *                                  | *  |
| 3/16                | 1300                              | *                                  |                                    | *                                  | *  |
| 3/30                | 1100                              | *                                  |                                    | 3.5                                | *  |
| 4/13                | 1200                              | *                                  |                                    | 5.4                                | *  |
| 4/27                | 1000                              | *                                  |                                    | *                                  | *  |
| 5/11                | 990                               | *                                  |                                    | *                                  | *  |
| 5/25                | 1100                              | *                                  |                                    | *                                  | *  |
| 6/8                 | 1200                              | *                                  | 2.6                                | *                                  | *  |
| 6/22                | 1100                              | *                                  |                                    | *                                  | *  |
| 7/6                 | 980                               | *                                  |                                    | *                                  | *  |
| 7/20                | 1100                              | *                                  |                                    | *                                  | *  |
| 8/3                 | 1400                              | *                                  |                                    | *                                  | *  |
| 8/17                | 940                               | *                                  |                                    | *                                  | *  |
| 8/31                | 1100                              | *                                  | *                                  | *                                  | *  |
| 9/14                | 1200                              | *                                  |                                    | *                                  | *  |
| 9/28                | 1400                              | *                                  |                                    | *                                  | *  |
| 10/12               | 1300                              | 41.                                |                                    | *                                  | *  |
| 10/26               | 980                               | *                                  |                                    | *                                  | *  |
| 11/9                | 1100                              | *                                  |                                    | *                                  | *  |
| 11/27               | 880                               | *                                  |                                    | *                                  | *  |
| 12/7                | 1000                              | *                                  | *                                  | *                                  | *  |
| 12/21               | 1100                              | *                                  |                                    | *                                  | *  |
| Annual<br>Average   | 1100                              | 15.                                | 2.3                                | 1.1                                | 9.0  |

\* Indicates the results were less than the analytical limit.  
 No entry indicates no analysis was made.

## APPENDIX F

TABLE 1 (Continued)  
CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972  
 Units of  $10^{-9} \mu\text{Ci/ml}$  of Milk

| <u>Date</u>                                | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
|--|-----------------------------------|------------------------------------|------------------------------------|--|
| Analy.                                     | 400                               | 50                                 | 2                                  | 30   |
| Limit                                      |                                   |                                    |                                    |  |
| <u>West Richland-Benton City Composite</u> |                                   |                                    |                                    |  |
| 1/13                                       | 1000                              | *                                  | *                                  | *  |
| 1/27                                       | 1300                              | *                                  | *                                  | *  |
| 2/10                                       | 1100                              | *                                  | *                                  | *  |
| 2/24                                       | 1000                              | *                                  | *                                  | *  |
| 3/9  | 1200                              | *                                  | *                                  | *  |
| 3/23                                       | 1300                              | *                                  | *                                  | *  |
| 4/6  | 1000                              | *                                  | 3.7                                | *  |
| 4/20                                       | 1000                              | *                                  | *                                  | *  |
| 5/4  | 850                               | *                                  | *                                  | *  |
| 5/18                                       | 1100                              | *                                  | *                                  | *  |
| 6/1  | 1000                              | *                                  | *                                  | *  |
| 6/15                                       | 1100                              | *                                  | *                                  | *  |
| 6/29                                       | 600                               | *                                  | *                                  | *  |
| 7/13                                       | 550                               | *                                  | *                                  | *  |
| 7/27                                       | 880                               | *                                  | *                                  | *  |
| 8/10                                       | 1200                              | *                                  | *                                  | *  |
| 8/24                                       | 950                               | *                                  | *                                  | *  |
| 9/7  | 1100                              | *                                  | *                                  | *  |
| 9/21                                       | 1100                              | *                                  | *                                  | *  |
| 10/5                                       | 980                               | *                                  | *                                  | *  |
| 10/19                                      | 1300                              | *                                  | *                                  | *  |
| 11/2                                       | 900                               | *                                  | *                                  | *  |
| 11/16                                      | 700                               | *                                  | *                                  | *  |
| 11/30                                      | 870                               | *                                  | *                                  | *  |
| 12/14                                      | 940                               | *                                  | *                                  | *  |
| 12/28                                      | 550                               | *                                  | *                                  | *  |
| Annual<br>Average                          | 1000                              | *12.                               | 1.1                                | 9.4  |

\*Indicates the results were less than the analytical limit.

## APPENDIX F

TABLE 1 (Continued)

CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972Units of  $10^{-9}$   $\mu\text{Ci}/\text{ml}$  of Milk

| <u>Date</u>       | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
|-------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|--|
| Analy.<br>Limit   | 400                               | 50                                 | 2                                  | 2                                  | 30   |
| <u>Brand H</u>    |                                   |                                    |                                    |                                    |  |
| 1/6               | 1300                              | *                                  |                                    | *                                  | *  |
| 2/3               | 1100                              | *                                  | 4.0                                | *                                  | *  |
| 3/2               | 1700                              | *                                  |                                    | *                                  | *  |
| 4/13              | 1100                              | *                                  |                                    | *                                  | *  |
| 5/11              | 980                               | *                                  | 6.4                                | *                                  | *  |
| 6/8               | 990                               | *                                  |                                    | *                                  | *  |
| 7/6               | 1100                              | *                                  |                                    | *                                  | 30.  |
| 8/3               | 1600                              | *                                  | 7.1                                | *                                  | *  |
| 9/14              | 1500                              | *                                  |                                    | *                                  | *  |
| 10/12             | 1500                              | 52.                                |                                    | *                                  | 35.  |
| 11/9              | 1100                              | *                                  | *                                  | *                                  | *  |
| 12/7              | 1100                              | *                                  |                                    | *                                  | *  |
| Annual<br>Average | 1200                              | *14.                               | 4.6                                | 0.8                                | 16.  |

\* Indicates the results were less than the analytical limit.  
 No entry indicates no analysis was made.

## APPENDIX F

TABLE 1 (Continued)

CONCENTRATIONS OF RADIONUCLIDES IN MILK - 1972

| <u>Date</u>                 | Units of $10^{-9}$ $\mu\text{Ci}/\text{ml}$ of Milk |                                    |                                    |                                    |  |
|-----------------------------|---|------------------------------------|------------------------------------|------------------------------------|--|
|                             | <u><math>^{40}\text{K}</math></u>                   | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{131}\text{I}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
| Analy.<br>Limit             | 400   | 50                                 | 2                                  | 2                                  | 30   |
| <u>Commercial Composite</u> |   |                                    |                                    |                                    |  |
| 1/6                         |   |                                    | *                                  |                                    |  |
| 1/20                        |   |                                    | *                                  |                                    |  |
| 2/3                         |   |                                    | *                                  |                                    |  |
| 2/17                        |   |                                    | *                                  |                                    |  |
| 3/2                         | 1400  | 62.                                | 3.7                                | *                                  | *  |
| 3/16                        | 1400  | *                                  |                                    | *                                  | *  |
| 3/30                        | 1300  | *                                  |                                    | *                                  | *  |
| 4/13                        | 1000  | *                                  |                                    | *                                  | *  |
| 4/27                        | 1200  | *                                  |                                    | *                                  | *  |
| 5/11                        | 1200  | *                                  |                                    | *                                  | *  |
| 5/25                        | 1000  | *                                  |                                    | *                                  | *  |
| 6/8                         | 900   | *                                  | 2.8                                | *                                  | *  |
| 6/22                        | 1200  | *                                  |                                    | *                                  | *  |
| 7/6                         | 980   |                                    |                                    | *                                  | *  |
| 7/20                        | 1200  | *                                  |                                    | *                                  | *  |
| 8/3                         | 1300  | *                                  |                                    | *                                  | *  |
| 8/17                        | 1200  | *                                  |                                    | *                                  | 35.  |
| 8/31                        | 1100  | *                                  | *                                  | *                                  | *  |
| 9/14                        | 1700  | *                                  |                                    | *                                  | *  |
| 9/28                        | 1400  | *                                  |                                    | *                                  | *  |
| 10/12                       | 1500  | *                                  |                                    | *                                  | *  |
| 11/9                        | 1200  | *                                  |                                    | *                                  | *  |
| 11/27                       | 920   | *                                  |                                    | *                                  | *  |
| 12/7                        | 870   | *                                  | *                                  | *                                  | *  |
| 12/21                       | 1100  | *                                  |                                    | *                                  | *  |
| Annual<br>Average           | 1200  | 19.                                | 2.4                                | 0.7                                | 15.  |

\* Indicates the results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX F

TABLE 2

CONCENTRATIONS OF RADIONUCLIDES IN LOCALLY PURCHASED MEAT - 1972

Units of  $10^{-6}$   $\mu\text{Ci/gm}$  of Meat (wet weight)

| <u>Date</u>       | <u>Type</u> | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}-^{137}\text{m Ba}</math></u> |
|-------------------|-------------|-----------------------------------|------------------------------------|------------------------------------|---|
| Analy.<br>Limit   |             | 0.27                              | 0.03                               | 0.002                              | 0.02  |
| <u>Commercial</u> |             |                                   |                                    |                                    |   |
| 1/20              | Beef        | 2.8                               | *                                  | *                                  | 0.08  |
| 2/24              | Beef        | 1.5                               | *                                  | *                                  | *   |
| 3/23              | Beef        | 2.3                               | *                                  | 0.006                              | 0.04  |
| 4/20              | Beef        | 2.4                               | *                                  | *                                  | 0.03  |
| 5/25              | Beef        | 2.3                               | *                                  | *                                  | 0.03  |
| 6/22              | Beef        | 2.6                               | *                                  | *                                  | 0.04  |
| 7/20              | Beef        | 2.1                               | *                                  | *                                  | *   |
| 8/24              | Beef        | 2.2                               | *                                  | *                                  | 0.03  |
| 9/21              | Beef        | 2.6                               | *                                  | *                                  | 0.05  |
| 10/26             | Beef        | 2.5                               | 0.06                               | *                                  | 0.06  |
| 11/27             | Beef        | 2.1                               | *                                  | *                                  | *   |
| 12/21             | Beef        | 2.3                               | *                                  | *                                  | *   |
| Annual Average    |             | 2.3                               | 0.02                               | 0.001                              | 0.03  |

\* Indicates the results were less than the analytical limit.

## APPENDIX F

TABLE 3  
CONCENTRATIONS OF RADIONUCLIDES IN LOCALLY PURCHASED  
LEAFY VEGETABLES - 1972

| <u>Date</u>           | <u>Produce</u> | Units of $10^{-6}$ $\mu\text{Ci}/\text{gm}$ (wet weight) |   |  |   |  |   | $\frac{^{144}\text{CePr}}{^{137}\text{Ba}}$<br>0.35 |
|-----------------------|----------------|--|---|--|---|--|---|---|
|                       |                | $\frac{^{40}\text{K}}{^{65}\text{Zn}}$                   | $\frac{^{89}\text{Sr}}{^{90}\text{Sr}}$ | $\frac{^{95}\text{ZrNb}}{^{106}\text{Ru}}$ | $\frac{^{131}\text{I}}{^{137}\text{Cs-137m}}$ | $\frac{^{137}\text{Cs-137m}}{^{106}\text{Ru}}$ | $\frac{^{137}\text{Cs-137m}}{^{131}\text{I}}$ |   |
| <u>Riverview Farm</u> |                |  |   |  |   |  |   |   |
| 6/9                   | Composite      | 2.7  | *                                       | 0.03                                       | 0.14  | *  | *   | 0.09  |
| 6/22                  | Composite      | 4.5  | *                                       | 0.11                                       | *   | *  | *   | *   |
| 7/13                  | Composite      | 3.5  | *                                       | 0.04                                       | *   | *  | *   | *   |
| Annual                | Average        | 3.6  | *                                       | 0.10                                       | *   | *0.002   | 0.04  | *0.03   |
| <u>Commercial</u>     |                |  |   |  |   |  |   |   |
| 5/25                  | Composite      | 2.6  | *                                       | 0.009                                      | 0.008   | 0.12   | *   | *   |
| 7/27                  | Composite      | 2.4  | *                                       | *  | *   | *  | *   | *   |
| 8/24                  | Composite      | 5.0  | *                                       | *  | *   | 1.0  | *   | *   |
| 9/21                  | Composite      | 4.2  | *                                       | 0.004                                      | 0.01  | *  | *   | *   |
| 10/26                 | Composite      | 5.6  | *                                       | *  | *   | *  | *   | *   |
| Annual                | Average        | 4.0  | *                                       | 0.006                                      | 0.009   | 0.03   | 0.38  | *0.02   |
|                       |                |  |   |  |   |  | 0.03  | *0.08   |

\* Indicates the results were less than the analytical limit.  
No entry indicates no analysis was made.

## APPENDIX F

TABLE 4

CONCENTRATIONS OF RADIONUCLIDES IN CHICKEN AND EGGS  
FROM LOCAL FARMS - 1972

| <u>Date</u>      | Units of $10^{-6}$ $\mu\text{Ci}/\text{gm}$ (wet weight) |                                   |                                    |                                    |  |
|------------------|--|-----------------------------------|------------------------------------|------------------------------------|--|
|                  | <u><math>^{32}\text{P}</math></u>                        | <u><math>^{40}\text{K}</math></u> | <u><math>^{65}\text{Zn}</math></u> | <u><math>^{90}\text{Sr}</math></u> | <u><math>^{137}\text{Cs}-^{137m}\text{Ba}</math></u> |
| Analy. Limit     | 1.0  | 0.27                              | 0.045                              | 0.002                              | 0.03   |
| <u>CHICKEN</u>   |  |                                   |                                    |                                    |  |
| <u>Riverview</u> |  |                                   |                                    |                                    |  |
| 12/15            | 2.0  | *                                 | *                                  | *                                  |  |
| <u>Ringold</u>   |  |                                   |                                    |                                    |  |
| 3/9              | 2.2  | 0.13                              | 0.003                              | *                                  |  |
| 7/13             | 2.4  | 0.06                              | 0.004                              | *                                  |  |
| 10/5             | *  | 2.8                               | 0.09                               | 0.04                               |  |
| Annual Average   | 2.5  | 0.09                              | 0.004                              | 0.02                               |  |
| <u>EGGS</u>      |  |                                   |                                    |                                    |  |
| <u>Riverview</u> |  |                                   |                                    |                                    |  |
| 2/10             | 0.82   | *                                 | 0.012                              | *                                  |  |
| 12/14            | 0.90   | *                                 |                                    | *                                  |  |
| Annual Average   | 0.86   | *0.011                            |                                    | 0.001                              |  |
| <u>Ringold</u>   |  |                                   |                                    |                                    |  |
| 3/9              | 1.3  | 0.09                              |                                    | *                                  |  |
| 4/6              | 0.74   | *                                 |                                    | *                                  |  |
| 5/4              | 0.90   | *                                 |                                    | *                                  |  |
| 6/1              | 0.83   | *                                 | 0.002                              | *                                  |  |
| 7/13             | 0.83   | *                                 |                                    | *                                  |  |
| 8/10             | 1.1  | *                                 | 0.03                               | *                                  |  |
| 9/7              | 1.0  | *                                 |                                    | *                                  |  |
| 10/5             | 1.4  | 0.09                              |                                    | 0.04                               |  |
| Annual Average   | 1.0  | 0.04                              | 0.014                              | 0.01                               |  |

\* Indicates the results were less than the analytical limit.  
No entry indicates no analysis was made.

APPENDIX G



## APPENDIX G

TABLE 1  
CONCENTRATIONS OF RADIONUCLIDES IN PERIMETER SOIL SAMPLES - 1972

| Location         | $^{40}\text{K}$ | Units of $10^{-6} \mu\text{Ci/gm}$ of Soil |                  |                  |                  |                    |                     |                   |                   |                     |                   | $^{239+240}\text{Pu}$ |
|------------------|-----------------|--|------------------|------------------|------------------|--------------------|---------------------|-------------------|-------------------|---------------------|-------------------|-----------------------|
|                  |                 | $^{58}\text{Co}$                           | $^{60}\text{Co}$ | $^{65}\text{Zn}$ | $^{90}\text{Sr}$ | $^{95}\text{ZrNb}$ | $^{106}\text{RuRh}$ | $^{134}\text{Cs}$ | $^{137}\text{Cs}$ | $^{144}\text{CePr}$ | $^{224}\text{Ra}$ |                       |
| Analy. Limit     | 0.5             | 0.03                                       | 0.03             | 0.07             | 0.002            | 0.2                | 0.4                 | 0.03              | 0.03              | 0.3                 | 0.04              | 0.003                 |
| Benton City      | 14.             | *  | 0.03             | *                | 0.38             | 0.27               | *                   | *                 | 1.1               | 1.3                 | 1.6               | 0.61                  |
| ERC              | 16.             | *  | 0.07             | 0.18             | 0.10             | *                  | 1.5                 | *                 | 0.04              | 0.68                | 2.7               | 0.69                  |
| Rt. 240, CP #54  | 14.             | *  | 0.04             | *                | 0.20             | *                  | 0.81                | 0.04              | 0.51              | 1.2                 | 1.9               | 0.84                  |
| Rattlesnake Spr. | 12.             | *  | 0.10             | *                | 0.01             | *                  | 0.55                | *                 | 1.5               | 1.4                 | 1.9               | 1.3                   |
| Yakima Barricade | 13.             | *  | *                | *                | 0.12             | 0.24               | *                   | *                 | 0.26              | 0.52                | 1.6               | 0.72                  |
| Vernita Bridge   | 16.             | *  | *                | 0.10             | 0.10             | 0.25               | 0.57                | *                 | 0.26              | 0.73                | 0.93              | 0.35                  |
| Wahluke Slope #2 | 12.             | *  | 0.04             | *                | 0.30             | *                  | 0.48                | *                 | 0.72              | 1.1                 | 1.3               | 0.39                  |
| Berg Ranch       | 12.             | *  | *                | *                | 0.20             | 0.25               | *                   | *                 | 0.23              | 1.1                 | 1.4               | 0.57                  |
| Ringold          | 16.             | 0.11                                       | *                | *                | 0.12             | 0.54               | 1.3                 | *                 | 0.40              | 0.92                | 1.8               | 0.48                  |
| Byers Pumphouse  | 20.             | *  | *                | *                | 0.08             | 1.2                | *                   | 0.04              | 0.42              | 1.8                 | 1.4               | 0.78                  |
| Byers Landing    | 18.             | *  | *                | *                | 0.13             | 0.34               | *                   | 0.05              | 0.84              | 1.5                 | 2.6               | 0.56                  |
| Riverview        | 14.             | *  | 0.15             | *                | 0.23             | *                  | 0.84                | 0.05              | 0.55              | 0.66                | 1.4               | 0.28                  |
| North Richland   | 16.             | *  | *                | *                | 0.32             | 0.23               | 2.2                 | *                 | 0.75              | *                   | 1.3               | 0.52                  |
| Maximum          | 20.             | 0.11                                       | 0.15             | 0.18             | 0.38             | 1.2                | 2.2                 | 0.05              | 1.5               | 2.7                 | 1.3               | 0.012                 |
| Minimum          | 12.             | *  | *                | *                | 0.01             | *                  | *                   | *                 | 0.04              | 0.52                | 0.93              | 0.28                  |
| Average          | 15.             | 0.01                                       | 0.04             | 0.03             | 0.18             | 0.28               | 0.64                | 0.01              | 0.58              | 0.99                | 1.7               | 0.62                  |
|                  |                 |  |                  |                  |                  |                    |                     |                   |                   |                     | 0.003             | 0.008                 |

\* Results were less than the analytical limit.

## APPENDIX G

TABLE 2  
CONCENTRATIONS OF RADIONUCLIDES IN PERIMETER VEGETATION SAMPLES - 1972

| Location         | Units of $10^{-6}$ $\mu\text{Ci/gm}$ of Vegetation |                  |                  |                    |                   |                   | Total U |
|------------------|--|------------------|------------------|--------------------|-------------------|-------------------|---------|
|                  | $^{40}\text{K}$                                    | $^{60}\text{Co}$ | $^{90}\text{Sr}$ | $^{95}\text{ZrNb}$ | $^{106}\text{Ru}$ | $^{137}\text{Cs}$ |         |
| Analy. Limit     | 0.3  | 0.04             | 0.002            | 0.01               | 0.4               | 0.02              | 0.4     |
| Benton City      | 5.2  | *                | 0.08             | 0.96               | 5.2               | 0.73              | 1.2     |
| ERC              | 2.7  | *                | 0.11             | 2.1                | 5.7               | 1.9               | 4.4     |
| Rt. 240, CP #54  | 3.8  | *                | 0.12             | 1.5                | 5.2               | 2.7               | *       |
| Rattlesnake Spr. | 9.7  | *                | 0.02             | 1.0                | 2.9               | 0.97              | 1.2     |
| Yakima Barricade | 10.  | *                | 0.07             | 1.1                | 4.6               | 1.7               | *       |
| Vernita Bridge   | 7.1  | *                | 0.11             | 2.0                | 3.8               | 5.8               | *       |
| Wahluke Slope #2 | 9.8  | *                | 0.06             | 0.66               | 5.7               | 0.71              | *       |
| Berg Ranch       | 11.  | 0.09             | 0.10             | 1.4                | 1.9               | 1.2               | *       |
| Ringold          | 4.2  | 0.04             | 0.05             | 0.59               | 2.4               | 0.56              | *       |
| Byers Pumphouse  | 11.  | *                | 0.05             | 0.84               | 2.5               | 3.8               | *       |
| Byers Landing    | 21.  | *                | 0.07             | 0.34               | 2.1               | 1.0               | *       |
| Riverview        | 15.  | *                | 0.85             | 0.14               | *                 | 0.24              | *       |
| North Richland   | 7.9  | *                | 0.04             | 0.70               | 2.4               | 0.79              | 0.82    |
| Maximum          | 21.  | 0.09             | 0.85             | 2.1                | 5.7               | 5.8               | 4.4     |
| Minimum          | 2.7  | *                | 0.02             | 0.14               | *                 | 0.24              | *       |
| Average          | 9.1  | 0.02             | 0.13             | 1.0                | 3.5               | 1.7               | 0.31    |
|                  |  |                  |                  |                    |                   |                   | 0.003   |
|                  |  |                  |                  |                    |                   |                   | 0.004   |

\* Results were less than the analytical limit.

APPENDIX H



APPENDIX H

TABLE 1  
IONIZATION CHAMBER MEASUREMENTS FOR THE  
HANFORD RESERVATION AND RICHLAND - 1972

Units of mR/day

| <u>Date</u> | <u>Richland</u> | <u>Hanford</u> |
|-------------|-----------------|----------------|
| 12/30-1/3   | 0.41            | 0.45           |
| 1/3-1/7     | 0.36            | 0.39           |
| 1/7-1/10    | 0.44            | 0.42           |
| 1/10-1/14   | 0.57            | 0.39           |
| 1/14-1/17   | 0.46            | 0.52           |
| 1/17-1/21   | 0.30            | 0.32           |
| 1/21-1/24   | 0.44            | 0.37           |
| 1/24-1/28   |                 | 0.22           |
| 1/28-1/31   | 0.46            |                |
| 1/31-2/4    | 0.49            | 0.42           |
| 2/4-2/7     | 0.51            | 0.49           |
| 2/7-2/11    | 0.43            | 0.38           |
| 2/11-2/14   | 0.36            | 0.44           |
| 2/14-2/18   | 0.43            | 0.37           |
| 2/18-2/22   | 0.39            | 0.41           |
| 2/22-2/25   | 0.40            | 0.35           |
| 2/25-2/28   | 0.71            | 0.52           |
| 2/28-3/3    | 0.48            | 0.60           |
| 3/3-3/6     | 0.41            | 0.42           |
| 3/6-3/10    | 0.34            | 0.44           |
| 3/10-3/13   | 0.38            | 0.40           |
| 3/13-3/17   | 0.34            | 0.43           |
| 3/17-3/20   | 0.42            | 0.45           |
| 3/20-3/24   | 0.34            | 0.41           |
| 3/24-3/27   | 0.40            | 0.45           |
| 3/27-3/31   | 0.33            | 0.40           |
| 3/31-4/3    | 0.34            | 0.53           |
| 4/3-4/7     | 0.40            | 0.44           |
| 4/7-4/10    | 0.52            | 0.43           |
| 4/10-4/14   | 0.37            | 0.39           |
| 4/14-4/17   | 0.45            | 0.35           |
| 4/17-4/21   | 0.34            | 0.41           |
| 4/21-4/24   | 0.35            | 0.42           |
| 4/24-4/28   |                 |                |
| 4/28-5/1    | 0.36            | 0.38           |
| 5/1-5/8     | 0.15            | 0.14           |
| 5/8-5/12    | 0.25            | 0.32           |

No entry indicates no analysis was made.

APPENDIX H

TABLE 1 (Continued)

IONIZATION CHAMBER MEASUREMENTS FOR THE  
HANFORD RESERVATION AND RICHLAND - 1972

Units of mR/day

| <u>Date</u> | <u>Richland</u> | <u>Hanford</u> |
|-------------|-----------------|----------------|
| 5/12-5/15   | 0.31            | 0.34           |
| 5/15-5/19   | 0.28            | 0.32           |
| 5/19-5/22   | 0.44            | 0.38           |
| 5/22-5/26   | 0.26            | 0.32           |
| 5/26-5/30   | 0.30            | 0.35           |
| 5/30-6/2    | 0.25            | 0.30           |
| 6/2-6/5     | 0.32            | 0.34           |
| 6/5-6/9     | 0.28            | 0.34           |
| 6/9-6/12    | 0.34            | 0.34           |
| 6/12-6/16   | 0.27            | 0.32           |
| 6/16-6/19   | 0.31            | 0.34           |
| 6/19-6/23   | 0.31            | 0.36           |
| 6/23-6/26   | 0.33            | 0.38           |
| 6/26-6/30   | 0.29            | 0.37           |
| 6/30-7/3    | 0.33            | 0.39           |
| 7/3-8/1     |                 |                |
| 8/1-8/4     | 0.33            |                |
| 8/4-8/7     | 0.37            | 0.44           |
| 8/7-8/11    | 0.34            | 0.39           |
| 8/11-8/14   | 0.41            | 0.40           |
| 8/14-8/18   | 0.34            | 0.41           |
| 8/18-8/22   | 0.44            | 0.40           |
| 8/22-8/25   | 0.33            | 0.40           |
| 8/25-8/28   | 0.43            | 0.45           |
| 8/28-9/1    | 0.35            | 0.31           |
| 9/1-9/5     | 0.42            | 0.38           |
| 9/5-9/8     | 0.48            | 0.42           |
| 9/8-9/11    | 0.38            | 0.37           |
| 9/11-9/15   | 0.37            | 0.46           |
| 9/15-9/18   | 0.36            | 0.37           |
| 9/18-9/22   | 0.36            | 0.42           |
| 9/22-9/25   | 0.43            | 0.41           |
| 9/25-9/29   | 0.38            | 0.47           |
| 9/29-10/2   | 0.44            | 0.47           |
| 10/2-10/6   | 0.36            | 0.48           |
| 10/6-10/9   | 0.42            | 0.47           |
| 10/9-10/13  | 0.32            | 0.39           |
| 10/13-10/16 | 0.37            | 0.42           |

No entry indicates no analysis was made.

APPENDIX H

TABLE 1 (Continued)

IONIZATION CHAMBER MEASUREMENTS FOR THE  
HANFORD RESERVATION AND RICHLAND - 1972

Units of mR/day

| <u>Date</u>    | <u>Richland</u> | <u>Hanford</u> |
|----------------|-----------------|----------------|
| 10/16-10/20    | 0.39            | 0.49           |
| 10/20-10/23    | 0.31            | 0.41           |
| 10/23-10/27    | 0.27            | 0.36           |
| 10/27-10/30    | 0.37            | 0.39           |
| 10/30-11/3     | 0.33            | 0.44           |
| 11/3-11/6      | 0.42            | 0.45           |
| 11/6-11/10     |                 |                |
| 11/10-11/13    | 0.43            | 0.47           |
| 11/13-11/17    | 0.42            | 0.51           |
| 11/17-11/20    | 0.48            | 0.50           |
| 11/20-11/22    | 0.44            | 0.55           |
| 11/22-11/27    | 0.41            | 0.44           |
| 11/27-12/1     | 0.34            | 0.48           |
| 12/1-12/4      | 0.51            | 0.43           |
| 12/4-12/8      | 0.42            | 0.26           |
| 12/8-12/11     | 0.50            | 0.26           |
| 12/11-12/15    | 0.45            | 0.56           |
| 12/15-12/18    | 0.50            | 0.53           |
| 12/18-12/21    | 0.47            | 0.44           |
| 12/21-12/29    | 0.34            | 0.31           |
| 12/29-1/2      | 0.39            | 0.44           |
| Annual Average | 0.38            | 0.40           |

No entry indicates no analysis was made.

## APPENDIX H

TABLE 2  
TLD MEASUREMENTS IN THE COLUMBIA RIVER - 1972  
 Units of mR/day

| <u>Measurement Period</u> | <u>Exposure Rate</u> | <u>Measurement Period</u> | <u>Exposure Rate</u> |
|---------------------------|----------------------|---------------------------|----------------------|
| <u>Above 100-N</u>        |                      | 8/18-9/25                 | 0.19                 |
| 11/14-1/20                | 0.16                 | 9/25-10/20                | 0.22                 |
| 1/20-2/23                 | 0.11                 | 10/20-11/16               | 0.16                 |
| 2/23-3/16                 | 0.21                 | 11/16-12/19               | 0.15                 |
| 3/16-7/24                 | 0.13                 | Annual Average            | 0.16                 |
| 7/24-8/18                 | 0.24                 |                           |                      |
| <u>Below 100-N</u>        |                      |                           |                      |
| 3/15-4/26                 | 0.15                 | 9/25-10/20                | 0.20                 |
| 5/23-7/24                 | 0.19                 | 10/20-11/16               | 0.16                 |
| 7/24-8/18                 | 0.14                 | 11/16-12/19               | 0.19                 |
| 8/18-9/25                 | 0.21                 | Annual Average            | 0.18                 |
| <u>Above 100-D</u>        |                      |                           |                      |
| 3/15-4/26                 | 0.17                 | 8/18-9/25                 | 0.13                 |
| 4/26-5/23                 | 0.20                 | 9/25-10/20                | 0.14                 |
| 5/23-7/24                 | 0.08                 | 10/20-11/16               | 0.34                 |
| 7/24-8/18                 | 0.12                 | 11/16-12/19               | 0.23                 |
|                           |                      | Annual Average            | 0.17                 |
| <u>D-Island</u>           |                      |                           |                      |
| 11/18-1/20                | 0.14                 | 7/24-8/18                 | 0.18                 |
| 1/20-2/23                 | 0.19                 | 8/18-9/25                 | 0.28                 |
| 2/23-3/16                 | 0.22                 | 9/25-10/20                | 0.33                 |
| 3/16-4/26                 | 0.26                 | 10/20-11/16               | 0.11                 |
| 4/26-7/24                 | 0.16                 | 11/16-12/19               | 0.11                 |
|                           |                      | Annual Average            | 0.19                 |
| <u>100-F</u>              |                      |                           |                      |
| 2/23-3/16                 | 0.33                 | 8/18-9/25                 | 0.20                 |
| 3/16-4/26                 | 0.26                 | 9/25-10/20                | 0.18                 |
| 4/26-5/23                 | 0.30                 | 10/20-11/16               | 0.17                 |
| 5/23-7/24                 | 0.11                 | 11/16-12/19               | 0.17                 |
| 7/24-8/18                 | 0.18                 | Annual Average            | 0.20                 |

APPENDIX H

TABLE 2 (Continued)  
TLD MEASUREMENTS IN THE COLUMBIA RIVER - 1972  
Units of mR/day

| <u>Measurement Period</u>     | <u>Exposure Rate</u> | <u>Measurement Period</u> | <u>Exposure Rate</u> |
|-------------------------------|----------------------|---------------------------|----------------------|
| <u>Hanford Powerline</u>      |                      |                           |                      |
| 9/25-10/6                     | 0.22                 |                           |                      |
| 10/20-11/16                   | 0.26                 |                           |                      |
| 11/16-12/19                   | 0.33                 |                           |                      |
| Annual Average                | 0.29                 |                           |                      |
| <u>South of Wooded Island</u> |                      |                           |                      |
| 12/8-1/12                     | 0.12                 | 8/23-9/20                 | 0.20                 |
| 1/12-2/9                      | 0.13                 | 9/20-10/18                | 0.18                 |
| 2/9-3/9                       | 0.19                 | 11/15-12/13               | 0.20                 |
| 3/9-4/5                       | 0.19                 | Annual Average            |                      |
| 4/5-5/8                       | 0.23                 | 0.19                      |                      |
| <u>Richland</u>               |                      |                           |                      |
| 12/27-1/24                    | 0.14                 | 7/10-8/7                  | 0.13                 |
| 1/24-2/22                     | 0.13                 | 8/7-9/5                   | 0.12                 |
| 2/22-3/20                     | 0.17                 | 9/5-10/2                  | 0.15                 |
| 3/20-4/17                     | 0.15                 | 10/2-10/30                | 0.15                 |
| 4/17-5/15                     | 0.15                 | 10/30-11/27               | 0.11                 |
| 5/15-6/12                     | 0.14                 | 11/27-12/21               | 0.16                 |
| 6/12-7/10                     | 0.12                 | Annual Average            |                      |
|                               |                      | 0.14                      |                      |

APPENDIX H

TABLE 3

EXTERNAL EXPOSURE RATE MEASUREMENT AT 3 FEET ABOVE THE  
COLUMBIA RIVER SHORELINE AT VERNITA,  
RICHLAND AND SACAJAWEA PARK - 1972

| Units of mR/day  |                      |             |                      |
|------------------|----------------------|-------------|----------------------|
| <u>Date</u>      | <u>Exposure Rate</u> | <u>Date</u> | <u>Exposure Rate</u> |
| <u>Vernita</u>   |                      |             |                      |
| 1/3              | 0.19                 | 7/11        | 0.17                 |
| 1/31             | 0.14                 | 7/17        | 0.24                 |
| 2/8              | 0.31                 | 8/14        | 0.19                 |
| 2/28             | 0.24                 | 9/5         | 0.17                 |
| 3/27             | 0.22                 | 9/11        | 0.24                 |
| 4/4              | 0.36                 | 9/12        | 0.31                 |
| 4/24             | 0.22                 | 9/19        | 0.31                 |
| 6/5              | 0.43                 | 9/26        | 0.31                 |
| 6/16             | 0.36                 | 11/14       | 0.29                 |
| Annual Avg.      |                      |             | 0.24                 |
| <u>Sacajawea</u> |                      |             |                      |
| 1/7              | 0.19                 | 6/16        | 0.31                 |
| 1/14             | 0.24                 | 6/30        | 0.36                 |
| 1/28             | 0.19                 | 7/28        | 0.31                 |
| 2/11             | 0.31                 | 8/11        | 0.19                 |
| 2/25             | 0.26                 | 9/8         | 0.29                 |
| 3/10             | 0.29                 | 9/22        | 0.29                 |
| 3/24             | 0.29                 | 10/6        | 0.26                 |
| 4/7              | 0.12                 | 10/20       | 0.31                 |
| 4/21             | 0.24                 | 11/17       | 0.29                 |
| 5/5              | 0.24                 | 12/1        | 0.17                 |
| 5/19             | 0.29                 | 12/29       | 0.29                 |
| 6/2              | 0.29                 | Annual Avg. |                      |
|                  |                      | 0.26        |                      |

APPENDIX H

TABLE 3 (Continued)

EXTERNAL EXPOSURE RATE MEASUREMENT AT 3 FEET ABOVE THE  
COLUMBIA RIVER SHORELINE AT VERNITA,  
RICHLAND AND SACAJAWEA PARK - 1972

| Units of mR/day |                      |                  |                      |
|-----------------|----------------------|------------------|----------------------|
| <u>Date</u>     | <u>Exposure Rate</u> | <u>Date</u>      | <u>Exposure Rate</u> |
| <u>Richland</u> |                      |                  |                      |
| 1/6             | 0.26                 | 7/20             | 0.10                 |
| 1/13            | 0.24                 | 7/27             | 0.14                 |
| 1/20            | 0.19                 | 8/3              | 0.26                 |
| 1/27            | 0.22                 | 8/10             | 0.31                 |
| 2/3             | 0.19                 | 8/17             | 0.36                 |
| 2/10            | 0.22                 | 8/25             | 0.60                 |
| 2/17            | 0.19                 | 8/29             | 0.31                 |
| 2/24            | 0.29                 | 8/31             | 0.22                 |
| 3/2             | 0.17                 | 9/7              | 0.29                 |
| 3/9             | 0.19                 | 9/14             | 0.34                 |
| 3/23            | 0.31                 | 9/21             | 0.31                 |
| 3/30            | 0.19                 | 10/5             | 0.17                 |
| 4/6             | 0.24                 | 10/12            | 0.19                 |
| 4/13            | 0.22                 | 10/19            | 0.17                 |
| 4/20            | 0.26                 | 10/26            | 0.19                 |
| 4/27            | 0.26                 | 11/2             | 0.17                 |
| 5/4             | 0.26                 | 11/9             | 0.26                 |
| 5/11            | 0.31                 | 11/16            | 0.17                 |
| 5/18            | 0.43                 | 11/30            | 0.29                 |
| 5/25            | 0.19                 | 12/7             | 0.14                 |
| 6/1             | 0.19                 | 12/14            | 0.31                 |
| 6/15            | 0.31                 | 12/21            | 0.19                 |
| 6/29            | 0.19                 | 12/28            | 0.19                 |
| 7/6             | 0.26                 | Annual Avg. 0.24 |                      |
| 7/13            | 0.26                 |                  |                      |

## APPENDIX H

TABLE 4 PART A  
TLD MEASUREMENTS AT 3 FEET ABOVE THE GROUND - 1972  
 Units of mR/day

| <u>EASTERN QUADRANT</u>                |                |                          |                 |               |                  |                |                 |                 |                 |
|--|----------------|--------------------------|-----------------|---------------|------------------|----------------|-----------------|-----------------|-----------------|
| <u>Approx.<br/>Wk.<br/>On<br/>Date</u> | <u>Ringold</u> | <u>Byers<br/>Landing</u> | <u>Richland</u> | <u>Passco</u> | <u>Kennewick</u> | <u>Eltopia</u> | <u>Connelly</u> | <u>Other110</u> | <u>New Moon</u> |
| 1/15                                   | 0.16           | 0.20                     | 0.19            | 0.17          | 0.17             | 0.19           | 0.19            | 0.18            | 0.21            |
| 1/12                                   | 0.16           | 0.23                     | 0.21            | 0.15          | 0.16             | 0.19           | 0.19            | 0.18            | 0.21            |
| 1/19                                   | 0.16           | 0.23                     | 0.21            | 0.15          | 0.16             | 0.19           | 0.15            | 0.18            | 0.21            |
| 1/26                                   | 0.16           | 0.23                     | 0.21            | 0.15          | 0.16             | 0.19           | 0.15            | 0.18            | 0.21            |
| 2/2                                    | 0.19           | 0.23                     | 0.21            | 0.15          | 0.16             | 0.22           | 0.15            | 0.18            | 0.21            |
| 2/9                                    | 0.19           | 0.26                     | 0.20            | 0.22          | 0.22             | 0.22           | 0.15            | 0.18            | 0.21            |
| 2/16                                   | 0.19           | 0.26                     | 0.20            | 0.22          | 0.22             | 0.22           | 0.21            | 0.20            | 0.24            |
| 2/23                                   | 0.19           | 0.26                     | 0.20            | 0.22          | 0.22             | 0.22           | 0.21            | 0.20            | 0.24            |
| 3/1                                    | 0.20           | 0.26                     | 0.20            | 0.22          | 0.22             | 0.24           | 0.21            | 0.20            | 0.24            |
| 3/8                                    | 0.20           | 0.29                     | 0.27            | 0.24          | 0.26             | 0.24           | 0.21            | 0.20            | 0.24            |
| 3/15                                   | 0.20           | 0.29                     | 0.27            | 0.24          | 0.26             | 0.24           | 0.19            | 0.20            | 0.25            |
| 3/22                                   | 0.20           | 0.29                     | 0.26            | 0.24          | 0.26             | 0.24           | 0.19            | 0.20            | 0.25            |
| 3/29                                   | 0.21           | 0.29                     | 0.26            | 0.24          | 0.26             | 0.22           | 0.19            | 0.20            | 0.25            |
| 4/5                                    | 0.21           | 0.27                     | 0.24            | 0.23          | 0.19             | 0.22           | 0.19            | 0.20            | 0.25            |
| 4/12                                   | 0.21           | 0.27                     | 0.24            | 0.23          | 0.19             | 0.22           | 0.19            | 0.19            | 0.26            |
| 4/19                                   | 0.21           | 0.27                     | 0.24            | 0.23          | 0.19             | 0.22           | 0.19            | 0.19            | 0.26            |
| 4/26                                   | 0.20           | 0.27                     | 0.24            | 0.23          | 0.19             | 0.24           | 0.19            | 0.19            | 0.26            |
| 5/3                                    | 0.20           | 0.24                     | 0.21            | 0.19          | 0.20             | 0.24           | 0.19            | 0.19            | 0.25            |
| 5/10                                   | 0.20           | 0.24                     | 0.21            | 0.19          | 0.20             | 0.24           | 0.22            | 0.20            | 0.25            |
| 5/17                                   | 0.20           | 0.24                     | 0.19            | 0.19          | 0.20             | 0.24           | 0.22            | 0.20            | 0.25            |
| 5/24                                   | 0.20           | 0.24                     | 0.19            | 0.19          | 0.20             | 0.22           | 0.22            | 0.20            | 0.25            |
| 5/31                                   | 0.20           | 0.26                     | 0.25            | 0.21          | 0.21             | 0.22           | 0.22            | 0.20            | 0.25            |
| 6/7                                    | 0.20           | 0.26                     | 0.25            | 0.21          | 0.21             | 0.22           | 0.21            | 0.19            | 0.25            |
| 6/14                                   | 0.20           | 0.26                     | 0.22            | 0.21          | 0.21             | 0.22           | 0.21            | 0.19            | 0.25            |
| 6/21                                   | 0.18           | 0.26                     | 0.22            | 0.21          | 0.21             | 0.21           | 0.21            | 0.19            | 0.21            |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

## APPENDIX H

TABLE 4 PART A (Continued)  
 TLD MEASUREMENTS AT 3 FEET ABOVE THE GROUND - 1972  
 Units of mR/day

| Approx.<br>Wk. On<br>Date | Ringold | EASTERN QUADRANT |          |       |           |         |         | Berg<br>Ranch | Wahluke<br>Watermaster |      |
|---------------------------|---------|------------------|----------|-------|-----------|---------|---------|---------------|------------------------|------|
|                           |         | Byers<br>Landing | Richland | Pasco | Kennewick | Eltopia | Connell | Othello       | New Moon               |      |
| 6/28                      | 0.18    | 0.24             | 0.23     | 0.18  | 0.19      | 0.21    | 0.21    | 0.19          | 0.25                   | 0.21 |
| 7/5                       | 0.18    | 0.24             | 0.23     | 0.18  | 0.19      | 0.21    | 0.19    | 0.26          | 0.20                   | 0.21 |
| 7/12                      | 0.18    | 0.24             | 0.23     | 0.18  | 0.19      | 0.21    | 0.19    | 0.26          | 0.20                   | 0.21 |
| 7/19                      | 0.18    | 0.24             | 0.23     | 0.18  | 0.19      | 0.20    | 0.19    | 0.26          | 0.20                   | 0.20 |
| 7/26                      | 0.18    | 0.23             | 0.20     | 0.18  | 0.19      | 0.20    | 0.19    | 0.26          | 0.20                   | 0.20 |
| 8/2                       | 0.18    | 0.23             | 0.20     | 0.18  | 0.19      | 0.20    | 0.20    | 0.20          | 0.24                   | 0.21 |
| 8/9                       | 0.18    | 0.23             | 0.20     | 0.18  | 0.19      | 0.20    | 0.20    | 0.20          | 0.24                   | 0.21 |
| 8/16                      | 0.19    | 0.23             | 0.20     | 0.18  | 0.19      | 0.26    | 0.20    | 0.20          | 0.24                   | 0.23 |
| 8/23                      | 0.19    | 0.28             | 0.18     | 0.21  | 0.20      | 0.26    | 0.20    | 0.20          | 0.24                   | 0.23 |
| 8/30                      | 0.19    | 0.28             | 0.18     | 0.21  | 0.20      | 0.26    | 0.22    | 0.21          | 0.28                   | 0.24 |
| 9/6                       | 0.19    | 0.28             | 0.21     | 0.21  | 0.20      | 0.26    | 0.22    | 0.21          | 0.28                   | 0.24 |
| 9/13                      | 0.20    | 0.28             | 0.21     | 0.21  | 0.20      | 0.28    | 0.22    | 0.21          | 0.28                   | 0.24 |
| 9/20                      | 0.20    | 0.28             | 0.20     | 0.22  | 0.21      | 0.28    | 0.22    | 0.21          | 0.28                   | 0.24 |
| 9/27                      | 0.20    | 0.28             | 0.20     | 0.22  | 0.21      | 0.28    | 0.21    | 0.21          | 0.26                   | 0.24 |
| 10/4                      | 0.20    | 0.28             | 0.22     | 0.22  | 0.21      | 0.28    | 0.21    | 0.21          | 0.28                   | 0.24 |
| 10/11                     | 0.19    | 0.28             | 0.22     | 0.22  | 0.21      | 0.24    | 0.21    | 0.21          | 0.28                   | 0.24 |
| 10/18                     | 0.19    | 0.24             | 0.22     | 0.19  | 0.19      | 0.24    | 0.21    | 0.21          | 0.26                   | 0.21 |
| 10/25                     | 0.19    | 0.24             | 0.22     | 0.19  | 0.19      | 0.24    | 0.18    | 0.18          | 0.22                   | 0.21 |
| 11/1                      | 0.19    | 0.24             | 0.19     | 0.19  | 0.19      | 0.24    | 0.18    | 0.18          | 0.22                   | 0.21 |
| 11/8                      | 0.24    | 0.24             | 0.19     | 0.19  | 0.19      | 0.29    | 0.18    | 0.18          | 0.22                   | 0.24 |
| 11/15                     | 0.24    | 0.25             | 0.19     | 0.24  | 0.21      | 0.29    | 0.18    | 0.18          | 0.22                   | 0.24 |
| 11/22                     | 0.24    | 0.25             | 0.19     | 0.24  | 0.21      | 0.29    | 0.23    | 0.23          | 0.31                   | 0.24 |
| 11/29                     | 0.24    | 0.25             | 0.25     | 0.24  | 0.21      | 0.29    | 0.23    | 0.23          | 0.31                   | 0.24 |
| 12/6                      | 0.18    | 0.25             | 0.25     | 0.24  | 0.21      | 0.24    | 0.23    | 0.23          | 0.31                   | 0.19 |
| 12/13                     | 0.18    | 0.22             | 0.28     | 0.19  | 0.15      | 0.24    | 0.23    | 0.31          | 0.19                   | 0.22 |
| 12/20                     | 0.18    | 0.22             | 0.18     | 0.19  | 0.15      | 0.24    | 0.17    | 0.18          | 0.24                   | 0.19 |
| Annual Average            | 0.20    | 0.26             | 0.22     | 0.20  | 0.20      | 0.24    | 0.20    | 0.20          | 0.24                   | 0.22 |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

## APPENDIX H

TABLE 4 PART B  
TLD MEASUREMENTS AT 3 FEET ABOVE THE GROUND - 1972  
 Units of mR/day

PERIMETER COMMUNITIES

| Approx.<br>Wk. On<br><u>Date</u> | <u>Sunnyside</u> | <u>Ellensburg</u> | <u>Moses Lake</u> | <u>Washtucna</u> | <u>Walla<br/>Walla</u> | <u>McNary Dam</u> |
|----------------------------------|------------------|-------------------|-------------------|------------------|------------------------|-------------------|
| 1/5                              | 0.16             | 0.16              | 0.15              | 0.19             | 0.19                   | 0.18              |
| 1/12                             | 0.16             | 0.16              | 0.15              | 0.19             | 0.16                   | 0.18              |
| 1/19                             | 0.16             | 0.15              | 0.16              | 0.16             | 0.16                   | 0.18              |
| 1/26                             | 0.16             | 0.15              | 0.16              | 0.16             | 0.16                   | 0.18              |
| 2/2                              | 0.16             | 0.15              | 0.16              | 0.16             | 0.16                   | 0.18              |
| 2/9                              | 0.16             | 0.15              | 0.16              | 0.16             | 0.24                   | 0.23              |
| 2/16                             | 0.19             | 0.20              | 0.19              | 0.20             | 0.24                   | 0.23              |
| 2/23                             | 0.19             | 0.20              | 0.19              | 0.20             | 0.24                   | 0.23              |
| 3/1                              | 0.19             | 0.20              | 0.19              | 0.20             | 0.24                   | 0.23              |
| 3/8                              | 0.19             | 0.20              | 0.19              | 0.20             | 0.23                   | 0.24              |
| 3/15                             | 0.19             | 0.18              | 0.21              | 0.25             | 0.23                   | 0.24              |
| 3/22                             | 0.19             | 0.18              | 0.21              | 0.25             | 0.23                   | 0.24              |
| 3/29                             | 0.19             | 0.18              | 0.21              | 0.25             | 0.23                   | 0.24              |
| 4/5                              | 0.19             | 0.18              | 0.21              | 0.25             | 0.19                   | 0.21              |
| 4/12                             | 0.15             | 0.15              | 0.23              | 0.22             | 0.19                   | 0.21              |
| 4/19                             | 0.15             | 0.15              | 0.23              | 0.22             | 0.19                   | 0.21              |
| 4/26                             | 0.15             | 0.15              | 0.23              | 0.22             | 0.19                   | 0.21              |
| 5/3                              | 0.15             | 0.15              | 0.23              | 0.22             | 0.18                   | 0.19              |
| 5/10                             | 0.17             | 0.15              | 0.21              | 0.22             | 0.18                   | 0.19              |
| 5/17                             | 0.17             | 0.15              | 0.21              | 0.22             | 0.18                   | 0.19              |
| 5/24                             | 0.17             | 0.15              | 0.21              | 0.22             | 0.18                   | 0.19              |
| 5/31                             | 0.17             | 0.15              | 0.21              | 0.22             | 0.20                   | 0.19              |
| 6/7                              | 0.16             | 0.15              | 0.23              | 0.22             | 0.20                   | 0.19              |
| 6/14                             | 0.16             | 0.15              | 0.23              | 0.22             | 0.20                   | 0.19              |
| 6/21                             | 0.16             | 0.15              | 0.23              | 0.22             | 0.20                   | 0.19              |
| 6/28                             | 0.16             | 0.15              | 0.23              | 0.22             | 0.21                   | 0.21              |
| 7/5                              | 0.16             | 0.14              | 0.18              | 0.22             | 0.21                   | 0.21              |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

APPENDIX H

TABLE 4 PART B (Continued)  
TLD MEASUREMENTS AT 3 FEET ABOVE THE GROUND - 1972  
Units of mR/day

PERIMETER COMMUNITIES

| Approx.<br>Wk. On<br>Date | Sunnyside | Ellensburg | Moses Lake | Washtucna | Walla | McNary Dam |
|---------------------------|-----------|------------|------------|-----------|-------|------------|
| 7/12                      | 0.16      | 0.14       | 0.18       | 0.22      | 0.21  | 0.21       |
| 7/19                      | 0.16      | 0.14       | 0.18       | 0.22      | 0.21  | 0.21       |
| 7/26                      | 0.16      | 0.14       | 0.18       | 0.22      | 0.19  | 0.20       |
| 8/2                       | 0.18      | 0.21       | 0.18       | 0.25      | 0.19  | 0.20       |
| 8/9                       | 0.18      | 0.21       | 0.18       | 0.25      | 0.19  | 0.20       |
| 8/16                      | 0.18      | 0.21       | 0.18       | 0.25      | 0.19  | 0.20       |
| 8/23                      | 0.18      | 0.21       | 0.18       | 0.25      | 0.21  | 0.23       |
| 8/30                      | 0.19      | 0.26       | 0.20       | 0.33      | 0.21  | 0.23       |
| 9/6                       | 0.19      | 0.26       | 0.20       | 0.33      | 0.21  | 0.23       |
| 9/13                      | 0.19      | 0.26       | 0.20       | 0.33      | 0.21  | 0.23       |
| 9/20                      | 0.19      | 0.26       | 0.20       | 0.33      | 0.24  | 0.26       |
| 9/27                      | 0.18      | 0.26       | 0.19       | 0.38      | 0.24  | 0.26       |
| 10/4                      | 0.18      | 0.26       | 0.19       | 0.38      | 0.24  | 0.26       |
| 10/11                     | 0.18      | 0.26       | 0.19       | 0.38      | 0.24  | 0.26       |
| 10/18                     | 0.18      | 0.26       | 0.19       | 0.38      | 0.19  | 0.22       |
| 10/25                     | 0.17      | 0.21       | 0.17       | 0.35      | 0.19  | 0.22       |
| 11/1                      | 0.17      | 0.21       | 0.17       | 0.35      | 0.19  | 0.22       |
| 11/8                      | 0.17      | 0.21       | 0.17       | 0.35      | 0.19  | 0.22       |
| 11/15                     | 0.17      | 0.21       | 0.17       | 0.35      | 0.22  | 0.26       |
| 11/22                     | 0.22      | 0.24       | 0.24       | 0.32      | 0.22  | 0.26       |
| 11/29                     | 0.22      | 0.24       | 0.24       | 0.32      | 0.22  | 0.26       |
| 12/6                      | 0.22      | 0.24       | 0.24       | 0.32      | 0.22  | 0.26       |
| 12/13                     | 0.22      | 0.24       | 0.24       | 0.32      | 0.18  | 0.20       |
| 12/20                     | 0.19      | 0.16       | 0.16       | 0.30      | 0.18  | 0.20       |
| Annual<br>Average         | 0.18      | 0.19       | 0.20       | 0.26      | 0.20  | 0.22       |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

APPENDIX H

TABLE 4 PART C  
TLD MEASUREMENTS AT 3 FEET ABOVE THE GROUND - 1972

Units of mR/day

OTHER LOCATIONS

| Approx.<br>Wk. On<br>Date | Yakima<br>Barricade | Vernita | Wahluke #2 | Benton City |
|---------------------------|---------------------|---------|------------|-------------|
| 1/5                       | 0.24                | 0.24    | 0.19       | 0.19        |
| 1/12                      | 0.26                | 0.24    | 0.19       | 0.19        |
| 1/19                      | 0.26                | 0.24    | 0.19       | 0.19        |
| 1/26                      | 0.26                | 0.24    | 0.19       | 0.19        |
| 2/2                       | 0.26                | 0.19    | 0.21       | 0.19        |
| 2/9                       | 0.24                | 0.19    | 0.21       | 0.19        |
| 2/16                      | 0.24                | 0.19    | 0.21       | 0.19        |
| 2/23                      | 0.24                | 0.19    | 0.21       | 0.19        |
| 3/1                       | 0.24                | 0.28    | 0.24       | 0.19        |
| 3/8                       | 0.34                | 0.28    | 0.24       | 0.24        |
| 3/15                      | 0.34                | 0.28    | 0.24       | 0.24        |
| 3/22                      | 0.34                | 0.28    | 0.24       | 0.24        |
| 3/29                      | 0.34                | 0.25    | 0.22       | 0.24        |
| 4/5                       | 0.27                | 0.25    | 0.22       | 0.19        |
| 4/12                      | 0.27                | 0.25    | 0.22       | 0.19        |
| 4/19                      | 0.27                | 0.25    | 0.22       | 0.19        |
| 4/26                      | 0.27                | 0.22    | 0.21       | 0.19        |
| 5/3                       | 0.30                | 0.22    | 0.21       | 0.20        |
| 5/10                      | 0.30                | 0.22    | 0.21       | 0.20        |
| 5/17                      | 0.30                | 0.22    | 0.21       | 0.20        |
| 5/24                      | 0.30                | 0.24    | 0.22       | 0.20        |
| 5/31                      | 0.32                | 0.24    | 0.22       | 0.24        |
| 6/7                       | 0.32                | 0.24    | 0.22       | 0.24        |
| 6/14                      | 0.32                | 0.24    | 0.22       | 0.24        |
| 6/21                      | 0.32                | 0.26    | 0.21       | 0.24        |
| 6/28                      | 0.31                | 0.26    | 0.21       | 0.19        |
| 7/5                       | 0.31                | 0.26    | 0.21       | 0.19        |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.

APPENDIX H

TABLE 4 PART C (Continued)  
TLD MEASUREMENTS AT 3 FEET ABOVE THE GROUND - 1972

| Units of mR/day                  |                             |                |                   |                    |
|----------------------------------|-----------------------------|----------------|-------------------|--------------------|
| <u>OTHER LOCATIONS</u>           |                             |                |                   |                    |
| Approx.<br>Wk. On<br><u>Date</u> | <u>Yakima<br/>Barricade</u> | <u>Vernita</u> | <u>Wahluke #2</u> | <u>Benton City</u> |
| 7/12                             | 0.31                        | 0.26           | 0.21              | 0.19               |
| 7/19                             | 0.31                        | 0.24           | 0.19              | 0.19               |
| 7/26                             | 0.28                        | 0.24           | 0.19              | 0.21               |
| 8/2                              | 0.28                        | 0.24           | 0.19              | 0.21               |
| 8/9                              | 0.28                        | 0.24           | 0.19              | 0.21               |
| 8/16                             | 0.28                        | 0.26           | 0.21              | 0.21               |
| 8/23                             | 0.24                        | 0.26           | 0.21              | 0.23               |
| 8/30                             | 0.24                        | 0.26           | 0.21              | 0.23               |
| 9/6                              | 0.24                        | 0.26           | 0.21              | 0.23               |
| 9/13                             | 0.24                        | 0.29           | 0.24              | 0.23               |
| 9/20                             | 0.25                        | 0.29           | 0.24              | 0.24               |
| 9/27                             | 0.25                        | 0.29           | 0.24              | 0.24               |
| 10/4                             | 0.25                        | 0.29           | 0.24              | 0.24               |
| 10/11                            | 0.25                        | 0.25           | 0.20              | 0.24               |
| 10/18                            | 0.21                        | 0.25           | 0.20              | 0.21               |
| 10/25                            | 0.21                        | 0.25           | 0.20              | 0.21               |
| 11/1                             | 0.21                        | 0.25           | 0.20              | 0.21               |
| 11/8                             | 0.21                        | 0.26           | 0.26              | 0.21               |
| 11/15                            | 0.25                        | 0.26           | 0.26              | 0.26               |
| 11/22                            | 0.25                        | 0.26           | 0.26              | 0.26               |
| 11/29                            | 0.25                        | 0.26           | 0.26              | 0.26               |
| 12/6                             | 0.25                        | 0.29           | 0.20              | 0.26               |
| 12/13                            | 0.21                        | 0.29           | 0.20              | 0.20               |
| 12/20                            | 0.21                        | 0.29           | 0.20              | 0.20               |
| Annual<br>Average                | 0.26                        | 0.25           | 0.22              | 0.22               |

As a result of sampling schedules, the on-date for some locations may differ by a few days from the date indicated.



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BNWL-1727 ADD

APPENDIX I



APPENDIX I

TABLE 1  
NITRATES IN COLUMBIA RIVER WATER AT  
VERNITA AND RICHLAND - 1972

| Units of ppm of Water |                |             |                 |
|-----------------------|----------------|-------------|-----------------|
| <u>Date</u>           | <u>Vernita</u> | <u>Date</u> | <u>Richland</u> |
| 1/4                   | 0.35           | 1/3         | 0.56            |
| 1/11                  | 0.43           | 1/10        | 0.69            |
| 1/18                  | 0.47           | 1/17        | 0.86            |
| 1/25                  | 0.39           | 1/24        | 0.44            |
| 2/1                   | 0.39           | 1/31        | 0.65            |
| 2/8                   | 0.46           | 2/7         | 0.59            |
| 2/15                  | 0.43           | 2/14        | 0.39            |
| 2/22                  | 0.35           | 2/22        | 0.41            |
| 2/29                  | 0.38           | 2/29        | 0.34            |
| 3/7                   | 0.44           | 3/7         | 0.35            |
| 3/14                  | 0.64           | 3/14        | 0.63            |
| 3/21                  | 0.92           | 3/21        | 0.86            |
| 3/28                  | 0.96           | 3/28        | 1.0             |
| 4/4                   | 0.33           | 4/4         | 0.27            |
| 4/11                  | 0.36           | 4/11        | 0.35            |
| 4/18                  | 0.37           | 4/18        | 0.36            |
| 4/25                  | 0.19           | 4/25        | 0.27            |
| 5/2                   | 0.32           | 5/2         | 0.18            |
| 5/9                   | *0.10          | 5/9         | 0.16            |
| 5/16                  | 0.20           | 5/16        | 0.18            |
| 5/23                  | 0.16           | 5/23        | 0.15            |
| 5/30                  | 0.17           | 5/30        | 0.24            |
| 6/6                   | 0.21           | 6/6         | 0.21            |
| 6/13                  | 0.21           | 6/13        | 0.22            |
| 6/20                  | 0.22           | 6/20        | 0.18            |
| 6/27                  | 0.31           | 6/27        | 0.17            |
| 7/5                   | 0.34           | 7/5         | 0.31            |
| 7/11                  |                | 7/11        | 0.33            |
| 7/18                  | 0.22           | 7/18        | 0.15            |
| 7/25                  | 1.3            | 7/25        | 0.40            |
| 8/1                   | 0.20           | 8/1         | 0.20            |
| 8/8                   | 0.34           | 8/8         | 0.17            |
| 8/15                  | 0.18           | 8/15        | 0.28            |
| 8/22                  | 0.33           | 8/22        | 0.22            |
| 8/29                  | 0.19           | 8/29        | 0.14            |

No entry indicates no analysis was made.

\*Indicates the results were less than the analytical limit.

APPENDIX I

TABLE 1 (Continued)

NITRATES IN COLUMBIA RIVER WATER AT  
VERNITA AND RICHLAND - 1972

| <u>Date</u>       | <u>Vernita</u> | <u>Date</u> | <u>Richland</u> |
|-------------------|----------------|-------------|-----------------|
| 9/5               | 0.14           | 9/5         | 0.58            |
| 9/12              | 0.35           | 9/12        | 0.33            |
| 9/19              | 0.16           | 9/19        | 0.21            |
| 9/26              | 0.28           | 9/26        | 0.33            |
| 10/3              | 0.29           | 10/3        | 0.36            |
| 10/10             | 0.27           | 10/10       | 0.23            |
| 10/17             | 0.32           | 10/17       | 0.31            |
| 10/24             | 0.42           | 10/24       | 0.35            |
| 10/31             | 0.34           | 10/31       | 0.31            |
| 11/7              | 0.30           | 11/7        | 0.34            |
| 11/14             | 0.24           | 11/14       | 0.37            |
| 11/21             | 0.29           | 11/21       | 0.31            |
| 11/28             | 0.26           | 11/28       | 0.31            |
| 12/5              | 0.18           | 12/5        | 0.37            |
| 12/12             | 0.36           | 12/12       | 0.35            |
| 12/20             | 0.38           | 12/20       | 0.40            |
| 12/22             | 0.59           | 12/22       | 0.59            |
| Annual<br>Average | 0.36           |             | 0.37            |

## APPENDIX I

TABLE 2

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT VERNITA - 1972

| <u>Date</u> | <u>pH</u> | Turbidity<br>(JTU) (a) | Diss O <sub>2</sub><br>(ppm) |
|-------------|-----------|------------------------|------------------------------|
| 1/4         | 7.8       | 0.6                    | 12.5                         |
| 1/11        | 8.2       | 1.3                    |                              |
| 1/18        | 8.0       | 1.3                    |                              |
| 1/25        | 8.2       | 2.1                    |                              |
| 2/1         | 8.0       | 1.7                    | 13.1                         |
| 2/8         | 8.1       | 1.3                    | 13.6                         |
| 2/15        | 8.1       | 1.5                    | 13.6                         |
| 2/23        | 7.4       | 4.0                    |                              |
| 2/29        | 7.7       | 4.0                    |                              |
| 3/7         | 7.8       | 2.5                    | 13.2                         |
| 3/14        | 8.1       | 3.7                    | 10.5                         |
| 3/21        | 8.1       | 12.0                   | 9.8                          |
| 3/28        | 7.7       | 10.0                   | 9.6                          |
| 4/4         | 7.9       | 10.0                   | 10.5                         |
| 4/11        | 8.5       | 8.8                    | 11.0                         |
| 4/18        | 8.6       | 5.8                    | 10.9                         |
| 4/25        | 8.7       | 5.0                    | 10.8                         |
| 5/2         | 9.1       | 3.3                    | 12.0                         |
| 5/9         | 8.4       | 4.2                    | 10.6                         |
| 5/16        | 8.2       | 6.5                    | 9.9                          |
| 5/23        | 8.1       | 9.0                    |                              |
| 5/30        | 8.0       | 6.0                    |                              |
| 6/6         | 7.4       | 20.0                   |                              |
| 6/13        | 8.2       | 28.0                   |                              |
| 6/27        | 9.2       | 8.0                    |                              |
| 7/5         |           | 7.3                    |                              |
| 7/11        |           | 6.0                    |                              |
| 7/18        |           | 6.0                    |                              |
| 7/25        | 8.0       | 3.5                    |                              |
| 8/1         | 8.2       | 5.0                    | 12.2                         |
| 8/8         | 8.3       | 5.0                    | 12.5                         |
| 8/15        | 8.1       | 3.3                    | 12.1                         |
| 8/22        | 8.0       | 3.0                    | 11.1                         |
| 8/29        | 8.2       | 2.3                    |                              |

(a) Jackson turbidity units.  
No entry indicates no analysis was made.

## APPENDIX I

TABLE 2 (Continued)

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT VERNITA - 1972

| <u>Date</u>    | <u>pH</u> | Turbidity<br>(JTU) (a) | Diss O <sub>2</sub><br>(ppm) |
|----------------|-----------|------------------------|------------------------------|
| 9/5            | 8.2       | 1.5                    | 10.3                         |
| 9/12           | 8.1       | 5.0                    |                              |
| 9/19           |           |                        | 11.6                         |
| 9/26           | 8.2       | 5.0                    | 10.8                         |
| 10/3           | 8.2       | 1.0                    | 9.4                          |
| 10/10          | 8.1       | 1.3                    | 8.6                          |
| 10/17          | 8.1       | 1.0                    | 8.6                          |
| 10/24          | 7.4       | 1.4                    | 9.5                          |
| 10/31          | 8.2       |                        | 8.0                          |
| 11/7           | 7.9       | 1.6                    | 9.1                          |
| 11/14          | 8.1       | 1.0                    | 10.3                         |
| 11/21          | 7.9       | 1.1                    | 9.0                          |
| 11/28          | 8.1       | 1.0                    | 8.5                          |
| 12/5           | 7.8       | 0.7                    | 6.1                          |
| 12/12          | 8.0       | 1.5                    | 4.0                          |
| 12/19          | 8.0       | 1.6                    | 9.7                          |
| 12/22          | 8.0       |                        |                              |
| Annual Average | 8.1       | 5.0                    | 10.6                         |

(a) Jackson turbidity units.  
No entry indicates no analysis was made.

APPENDIX I

TABLE 3

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u> | Turbidity<br>(JTU) (a) | Diss O <sub>2</sub><br>(ppm) |
|-------------|-----------|------------------------|------------------------------|
| 1/3         | 8.1       | 0.9                    | 9.8                          |
| 1/4         | 7.8       | 0.5                    | 12.2                         |
| 1/5         | 7.9       | 0.9                    | 12.6                         |
| 1/6         | 8.1       | 1.4                    | 12.6                         |
| 1/7         | 7.9       | 0.8                    | 12.3                         |
| 1/10        | 8.2       | 1.0                    | 14.7                         |
| 1/11        | 8.0       | 2.1                    | 14.6                         |
| 1/12        | 7.9       | 3.0                    | 13.8                         |
| 1/13        | 7.9       | 1.3                    | 13.4                         |
| 1/14        | 7.8       | 1.1                    | 13.6                         |
| 1/17        | 7.4       | 3.5                    | 13.5                         |
| 1/18        | 7.8       | 1.2                    | 11.4                         |
| 1/19        | 7.9       | 0.4                    |                              |
| 1/20        | 8.0       | 1.3                    | 13.4                         |
| 1/21        | 7.8       | 3.5                    | 14.5                         |
| 1/24        | 8.3       | 1.5                    |                              |
| 1/25        | 8.0       | 1.7                    |                              |
| 1/27        | 8.0       | 2.0                    | 12.8                         |
| 1/28        | 8.1       | 1.6                    |                              |
| 1/31        | 7.9       | 2.2                    | 13.0                         |
| 2/1         | 8.1       | 1.7                    | 13.1                         |
| 2/2         | 8.1       | 2.0                    | 13.0                         |
| 2/4         | 8.0       | 2.0                    | 12.8                         |
| 2/7         | 8.2       | 1.8                    | 14.2                         |
| 2/8         | 8.0       | 1.8                    | 13.7                         |
| 2/9         | 8.0       | 1.3                    | 13.9                         |
| 2/10        | 7.9       | 1.3                    | 13.3                         |
| 2/11        | 7.9       | 1.6                    | 13.7                         |
| 2/14        | 8.1       | 1.6                    | 13.8                         |
| 2/15        | 8.1       | 1.6                    | 13.1                         |
| 2/17        | 7.8       | 4.0                    | 12.8                         |
| 2/18        | 8.1       | 3.0                    | 12.6                         |
| 2/22        | 8.2       | 5.0                    | 13.1                         |
| 2/24        | 7.5       | 3.6                    | 13.2                         |
| 2/25        | 7.4       | 3.7                    | 13.1                         |
| 2/28        | 7.9       | 4.2                    | 13.2                         |

(a) Jackson turbidity units.  
No entry indicates no analysis was made.

## APPENDIX I

TABLE 3 (Continued)  
 WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
 AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u> | Turbidity<br>(JTU) (a) | Diss O <sub>2</sub><br>(ppm) |
|-------------|-----------|------------------------|------------------------------|
| 2/29        | 7.7       | 5.2                    | 12.3                         |
| 3/1         | 7.8       | 2.3                    | 13.3                         |
| 3/2         | 7.8       | 2.4                    | 13.4                         |
| 3/3         | 7.7       | 4.3                    | 12.8                         |
| 3/6         | 7.8       | 0.6                    | 13.0                         |
| 3/7         | 8.0       | 2.7                    | 14.2                         |
| 3/8         | 7.8       | 2.3                    | 12.5                         |
| 3/9         | 8.0       | 2.3                    | 11.9                         |
| 3/10        | 7.5       | 4.4                    |                              |
| 3/13        | 8.2       | 0.8                    | 10.5                         |
| 3/14        | 8.2       | 3.3                    | 10.2                         |
| 3/16        | 8.1       | 4.5                    | 10.8                         |
| 3/17        | 8.3       | 4.3                    |                              |
| 3/20        | 8.4       | 6.0                    | 10.2                         |
| 3/21        | 8.1       | 9.0                    | 9.7                          |
| 3/22        | 7.4       | 13.                    | 10.0                         |
| 3/23        | 8.0       | 10.                    | 10.2                         |
| 3/24        | 8.0       | 11.                    | 9.4                          |
| 3/27        | 8.0       | 10.                    | 10.0                         |
| 3/28        | 7.4       | 12.                    | 9.7                          |
| 3/29        | 7.7       | 13.                    | 10.2                         |
| 3/30        | 7.6       | 11.                    | 9.8                          |
| 3/31        | 7.8       | 11.                    | 10.2                         |
| 4/3         | 7.8       | 9.0                    | 10.3                         |
| 4/4         | 7.8       | 9.0                    | 10.2                         |
| 4/5         | 7.9       | 9.0                    | 9.7                          |
| 4/6         | 8.1       | 9.0                    | 9.4                          |
| 4/7         | 7.4       | 8.5                    | 10.7                         |
| 4/10        | 7.2       | 7.7                    | 11.1                         |
| 4/11        | 8.4       | 7.9                    | 11.2                         |
| 4/13        | 8.6       | 6.0                    | 9.7                          |
| 4/14        | 8.5       | 6.0                    | 10.6                         |
| 4/17        | 8.6       | 6.5                    | 10.1                         |
| 4/18        | 8.6       | 7.0                    | 10.4                         |
| 4/20        | 8.6       | 4.5                    | 10.8                         |
| 4/21        | 8.4       | 4.5                    |                              |
| 4/24        | 8.5       | 4.7                    | 11.2                         |

(a) Jackson turbidity units.  
 No entry indicates no analysis was made.

## APPENDIX I

TABLE 3 (Continued)

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u> | Turbidity<br>(JTU) (a) | Diss O <sub>2</sub><br>(ppm) |
|-------------|-----------|------------------------|------------------------------|
| 4/25        | 8.7       | 5.0                    | 10.3                         |
| 4/26        | 8.1       | 2.2                    | 10.3                         |
| 4/27        | 8.9       | 2.8                    | 10.8                         |
| 4/28        | 8.8       | 3.2                    | 10.4                         |
| 5/1         | 9.1       | 2.8                    | 11.4                         |
| 5/2         | 9.0       | 2.8                    | 10.2                         |
| 5/3         | 9.1       | 5.0                    | 10.5                         |
| 5/4         | 9.0       | 3.4                    | 10.7                         |
| 5/5         | 8.8       | 3.2                    |                              |
| 5/8         | 8.3       | 4.0                    | 10.3                         |
| 5/9         | 8.4       | 4.0                    | 10.5                         |
| 5/11        | 8.4       | 3.8                    | 10.0                         |
| 5/12        | 8.2       | 6.0                    | 10.3                         |
| 5/15        | 8.2       | 6.0                    | 10.0                         |
| 5/16        | 8.2       | 7.0                    | 9.9                          |
| 5/17        | 8.2       | 6.7                    | 9.8                          |
| 5/18        | 8.3       | 7.8                    | 10.5                         |
| 5/19        | 8.1       | 6.7                    | 10.4                         |
| 5/22        | 8.1       | 10.                    | 11.0                         |
| 5/23        | 8.4       | 10.                    | 10.7                         |
| 5/24        | 8.2       | 8.4                    | 11.2                         |
| 5/25        | 8.3       | 8.5                    | 10.7                         |
| 5/26        | 8.2       | 7.8                    | 10.9                         |
| 5/30        | 8.0       | 5.7                    |                              |
| 5/31        | 8.0       | 7.6                    |                              |
| 6/1         | 8.0       | 8.3                    |                              |
| 6/2         | 7.6       | 17.                    |                              |
| 6/5         | 7.5       | 26.                    |                              |
| 6/6         | 7.5       | 23.                    |                              |
| 6/8         | 7.6       | 17.                    |                              |
| 6/9         | 7.3       | 20.                    |                              |
| 6/12        | 7.3       | 30.                    |                              |
| 6/13        | 7.9       | 30.                    |                              |
| 6/14        | 8.0       | 30.                    |                              |
| 6/15        | 8.0       | 25.                    |                              |
| 6/16        | 8.1       | 13.                    |                              |
| 6/19        | 7.2       | 11.                    |                              |
| 6/20        | 7.9       | 11.                    |                              |
| 6/21        | 8.2       | 12.                    |                              |

(a) Jackson turbidity units.  
No entry indicates no analysis was made.

## APPENDIX I

TABLE 3 (Continued)  
 WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
 AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u> | <u>Turbidity</u><br>(JTU) (a) | <u>Diss O<sub>2</sub></u><br>(ppm) |
|-------------|-----------|-------------------------------|------------------------------------|
| 6/22        | 8.2       | 12.                           |                                    |
| 6/23        | 9.2       | 9.5                           |                                    |
| 6/26        | 9.2       | 8.7                           |                                    |
| 6/27        | 9.2       | 10.                           |                                    |
| 6/28        | 9.4       | 9.3                           |                                    |
| 6/29        | 9.3       | 9.2                           |                                    |
| 6/30        | 8.8       | 10.                           |                                    |
| 7/3         | 8.8       | 8.0                           |                                    |
| 7/5         |           | 6.8                           |                                    |
| 7/6         |           | 7.0                           |                                    |
| 7/7         |           | 7.0                           |                                    |
| 7/10        | 7.8       | 5.0                           |                                    |
| 7/19        | 8.4       | 6.0                           |                                    |
| 7/20        | 8.2       | 5.0                           |                                    |
| 7/21        | 8.2       | 3.5                           |                                    |
| 7/24        | 8.3       | 3.5                           |                                    |
| 7/25        | 8.3       | 6.0                           |                                    |
| 7/26        | 8.2       | 3.2                           |                                    |
| 7/27        | 8.2       | 3.2                           |                                    |
| 7/28        | 8.0       | 3.3                           |                                    |
| 7/31        | 7.5       | 3.1                           | 11.9                               |
| 8/1         | 8.1       | 5.0                           | 11.8                               |
| 8/2         | 8.2       | 3.4                           | 11.6                               |
| 8/3         | 8.2       | 4.0                           | 11.8                               |
| 8/4         | 8.0       | 4.0                           | 11.5                               |
| 8/7         | 8.0       | 7.0                           | 12.0                               |
| 8/8         | 8.2       | 5.0                           | 11.6                               |
| 8/9         | 8.2       | 8.0                           | 11.6                               |
| 8/10        | 8.0       | 6.0                           | 11.4                               |
| 8/11        | 8.0       | 4.8                           | 11.8                               |
| 8/14        | 8.0       | 3.8                           | 11.2                               |
| 8/15        | 8.1       | 3.0                           | 11.5                               |
| 8/16        | 8.1       | 3.3                           | 11.8                               |
| 8/17        | 8.2       | 7.0                           | 10.6                               |
| 8/18        | 8.1       | 2.5                           | 9.9                                |
| 8/21        |           | 3.8                           | 10.6                               |
| 8/22        | 8.0       | 3.0                           | 10.6                               |
| 8/23        | 8.1       | 5.0                           | 10.5                               |
| 8/24        | 7.8       | 3.0                           | 10.7                               |

(a) Jackson turbidity units.  
 No entry indicates no analysis was made.

## APPENDIX I

TABLE 3 (Continued)

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u> | Turbidity<br>(JTU) (a) | Diss O <sub>2</sub><br>(ppm) |
|-------------|-----------|------------------------|------------------------------|
| 10/19       | 8.0       | 1.0                    | 8.5                          |
| 10/20       | 7.5       | 1.5                    | 8.8                          |
| 10/23       | 8.2       | 4.0                    | 10.2                         |
| 10/24       | 7.4       | 1.2                    | 9.7                          |
| 10/26       | 8.2       | 1.5                    | 8.9                          |
| 10/27       | 7.9       | 1.4                    | 8.9                          |
| 10/30       | 8.1       | 4.0                    | 9.1                          |
| 10/31       | 7.7       | 1.9                    | 8.6                          |
| 11/2        | 8.0       |                        | 8.3                          |
| 11/3        | 8.0       | 1.5                    | 8.3                          |
| 11/6        | 8.0       | 1.5                    | 8.8                          |
| 11/7        | 7.9       | 1.4                    | 9.4                          |
| 11/8        | 7.9       | 1.0                    | 8.3                          |
| 11/9        | 7.9       |                        | 8.1                          |
| 11/10       | 7.9       |                        | 9.2                          |
| 11/13       | 8.0       | 1.0                    |                              |
| 11/14       | 8.0       | 1.0                    | 11.7                         |
| 11/15       | 7.9       | 1.0                    | 9.4                          |
| 11/16       | 8.0       | 1.4                    | 9.2                          |
| 11/17       | 7.5       | 1.4                    | 9.2                          |
| 11/20       | 7.4       | 1.3                    | 9.4                          |
| 11/21       | 7.8       | 1.0                    | 8.9                          |
| 11/27       | 7.7       | 1.2                    | 9.0                          |
| 11/28       | 8.1       | 1.0                    | 8.8                          |
| 11/30       | 7.9       | 1.2                    | 8.4                          |
| 12/1        | 7.7       | 1.2                    | 8.7                          |
| 12/4        | 8.1       | 0.1                    | 9.2                          |
| 12/5        | 7.8       | 0.7                    | 8.8                          |
| 12/6        | 7.7       | 0.5                    | 9.2                          |
| 12/7        | 8.0       | 2.1                    | 9.3                          |
| 12/8        | 8.0       | 1.7                    | 9.2                          |
| 12/11       | 7.9       | 2.3                    | 10.4                         |
| 12/12       | 8.0       | 1.5                    | 10.6                         |
| 12/13       | 8.0       | 1.5                    | 9.1                          |
| 12/14       | 8.0       | 1.5                    | 10.0                         |
| 12/15       | 7.6       | 1.5                    | 10.1                         |
| 12/18       | 7.7       | 1.7                    | 9.6                          |
| 12/19       | 8.0       | 1.7                    | 9.9                          |

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No entry indicates no analysis was made.

## APPENDIX I

TABLE 3 (Continued)

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u> | <u>Turbidity</u><br>(JTU) (a) | <u>Diss O<sub>2</sub></u><br>(ppm) |
|-------------|-----------|-------------------------------|------------------------------------|
| 8/25        | 7.8       | 3.0                           | 10.7                               |
| 8/28        | 7.8       | 2.8                           | 10.6                               |
| 8/29        | 8.0       | 2.6                           | 10.6                               |
| 8/30        | 8.2       | 2.4                           | 9.9                                |
| 8/31        | 8.3       | 2.7                           | 9.8                                |
| 9/1         | 8.2       | 2.6                           | 9.4                                |
| 9/5         | 8.0       | 2.2                           | 9.9                                |
| 9/6         | 8.1       | 1.5                           | 9.6                                |
| 9/7         | 8.2       | 2.0                           | 8.7                                |
| 9/8         | 7.4       | 2.0                           | 9.9                                |
| 9/11        | 8.1       | 1.9                           | 10.6                               |
| 9/12        | 7.9       | 2.0                           | 10.3                               |
| 9/13        | 8.1       | 2.2                           | 9.8                                |
| 9/14        | 8.0       |                               | 10.2                               |
| 9/15        | 8.0       |                               | 10.2                               |
| 9/19        |           |                               | 10.2                               |
| 9/20        |           |                               | 10.6                               |
| 9/21        |           | 4.0                           | 9.4                                |
| 9/22        | 7.3       | 4.7                           | 9.7                                |
| 9/25        | 7.7       | 5.0                           | 10.3                               |
| 9/26        | 8.1       | 4.0                           | 9.8                                |
| 9/27        | 8.0       | 4.0                           | 9.6                                |
| 9/28        | 8.3       | 3.0                           | 9.6                                |
| 9/29        | 8.2       |                               | 9.4                                |
| 10/2        | 8.2       |                               | 10.0                               |
| 10/3        | 8.2       |                               | 9.2                                |
| 10/4        | 8.2       | 1.0                           |                                    |
| 10/5        | 8.2       | 1.0                           |                                    |
| 10/6        | 8.0       | 2.0                           |                                    |
| 10/9        | 8.1       | 1.2                           | 8.8                                |
| 10/10       | 8.0       | 1.4                           | 8.7                                |
| 10/11       | 8.0       | 1.5                           | 8.8                                |
| 10/12       | 8.1       | 4.0                           | 8.8                                |
| 10/13       | 8.1       | 1.0                           | 8.6                                |
| 10/16       | 8.1       | 4.0                           | 9.2                                |
| 10/17       | 8.0       | 1.0                           | 8.5                                |
| 10/18       | 8.0       | 1.2                           | 8.4                                |

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No entry indicates no analysis was made.

APPENDIX I

TABLE 3 (Continued)

WATER QUALITY MEASUREMENTS IN COLUMBIA RIVER WATER  
AT THE 300 AREA - 1972

| <u>Date</u> | <u>pH</u>   | <u>Turbidity</u><br>(JTU) (a) | <u>Diss O<sub>2</sub></u><br>(ppm) |
|-------------|-------------|-------------------------------|------------------------------------|
| 12/21       | 7.5         | 1.5                           | 9.9                                |
| 12/22       | 8.0         |                               | 9.6                                |
| 12/27       | 7.3         | 1.5                           |                                    |
| 12/28       | 8.0         |                               | 10.6                               |
| 12/29       | 7.9         |                               | 10.4                               |
| Annual      |             |                               |                                    |
|             | Average 8.0 | 4.6                           | 10.5                               |

No entry indicates no analysis was made.

## APPENDIX I

TABLE 4  
BIOLOGICAL MEASUREMENTS OF COLUMBIA RIVER WATER AT  
VERNITA AND RICHLAND - 1972

| <u>Date</u>    | <u>Vernita</u>                   |                                   |                       | <u>Richland</u>                  |                                    |                       |
|----------------|----------------------------------|-----------------------------------|-----------------------|----------------------------------|------------------------------------|-----------------------|
|                | <u>Coliform<br/>(per 100 ml)</u> | <u>Enterocci<br/>(per 100 ml)</u> | <u>BOD<br/>(mg/l)</u> | <u>Coliform<br/>(per 100 ml)</u> | <u>Enterococi<br/>(per 100 ml)</u> | <u>BOD<br/>(mg/l)</u> |
| 1/11           | 2.                               | 7.                                | 3.8                   | 4.                               | 4.                                 | 4.2                   |
| 2/8            | 1.                               | 1.                                | 1.9                   | 10.                              | 16.                                | 2.9                   |
| 3/14           | 10.                              | 2.                                | 3.2                   | 2.                               | 2.                                 | 2.8                   |
| 4/4            | 6.                               | 7.                                | 4.1                   | 6.                               | 14.                                | 3.5                   |
| 6/20           | 100.                             | 10.                               | 3.2                   | 90.                              | 82.                                | 4.0                   |
| 7/11           | 100.                             | 20.                               | 3.2                   | 270.                             | 30.                                | 3.2                   |
| 8/8            | 210.                             | 37.                               | 3.3                   | 90.                              | 48.                                | 4.0                   |
| 8/22           | 120.                             | 39.                               | 1.2                   | 20.                              | 43.                                | 1.2                   |
| 9/5            | 40.                              | 99.                               | 2.2                   |                                  |                                    |                       |
| 9/19           | 84.                              | 49.                               | 2.4                   |                                  |                                    |                       |
| 10/3           | 35.                              | 280.                              | 1.8                   |                                  |                                    |                       |
| 10/24          | 120.                             | 190.                              | 2.1                   |                                  |                                    |                       |
| 11/14          | 12.                              | 7.                                | 1.0                   | 14.                              | 40.                                | 1.7                   |
| 12/12          | 9.                               | 3.                                | 1.8                   | 6.                               | 5.                                 | 1.6                   |
| Annual Average | 49.                              | 37.                               | 2.6                   | 88.                              | 34                                 | 2.9                   |

No entry indicates no analysis was made.

APPENDIX I

TABLE 5

TEMPERATURES OF COLUMBIA RIVER WATER AT PRIEST RAPIDS  
DAM AND RICHLAND - 1972

| <u>Date</u>    | Priest Rapids<br>Dam | <u>Richland</u> |
|----------------|----------------------|-----------------|
| January        | 3.6                  | 3.2             |
| February       | 1.9                  | 2.0             |
| March          | 4.0                  | 3.8             |
| April          | 7.2                  | 7.0             |
| May            | 10.6                 | 11.0            |
| June           | 12.9                 | 13.4            |
| July           | 15.2                 | 15.5            |
| August         | 17.5                 | 17.9            |
| September      | 18.1                 | 16.8            |
| October        | 16.8                 | 14.0            |
| November       | 13.8                 | 10.5            |
| December       | 9.1                  | 6.2             |
| Annual Average | 10.9                 | 10.1            |



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APPENDIX J



## APPENDIX J

TABLE 1

CHEMICALS IN RICHLAND DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

Units of ppm of Water

| <u>Date</u> | <u>NO<sub>3</sub></u> | <u>F<sup>-</sup></u> | <u>Date</u>    | <u>NO<sub>3</sub></u> | <u>F<sup>-</sup></u> |
|-------------|-----------------------|----------------------|----------------|-----------------------|----------------------|
| 12/27-1/3   | 0.53                  | 0.13                 | 7/10-7/17      | 0.32                  | 0.11                 |
| 1/3-1/10    | 0.85                  | 0.14                 | 7/17-7/24      | 0.33                  | 0.10                 |
| 1/10-1/17   | 0.60                  | 0.14                 | 7/24-7/31      | 0.80                  | 0.10                 |
| 1/17-1/24   | 0.49                  | 0.14                 | 7/31-8/7       | 0.10                  | 0.12                 |
| 1/24-1/31   | 0.51                  | 0.14                 | 8/7-8/14       | 0.29                  | 0.12                 |
| 1/31-2/7    | 4.5                   | 0.16                 | 8/14-8/21      | 0.41                  | 0.12                 |
| 2/7-2/14    | 16.0                  | 0.21                 | 8/21-8/28      | 0.33                  | 0.10                 |
| 2/14-2/22   | 0.80                  | 0.18                 | 8/28-9/4       | 0.31                  | 0.13                 |
| 2/22-2/28   | 1.4                   | 0.18                 | 9/4-9/11       | 0.36                  | 0.11                 |
| 2/28-3/6    | 0.23                  | 0.16                 | 9/11-9/18      | 0.60                  | 0.11                 |
| 3/6-3/13    | 2.0                   | 0.20                 | 9/18-9/25      | 0.50                  | 0.10                 |
| 3/13-3/20   | 2.1                   | 0.18                 | 9/25-10/2      | 0.40                  | 0.10                 |
| 3/20-3/27   | 10.0                  | 0.21                 | 10/2-10/9      | 0.37                  | 0.13                 |
| 3/27-4/3    | 0.35                  | 0.21                 | 10/9-10/16     | 0.45                  | 0.13                 |
| 4/3-4/10    | 0.36                  | 0.21                 | 10/16-10/23    | 0.53                  | 0.13                 |
| 4/10-4/17   | 0.33                  | 0.19                 | 10/23-10/30    | 5.4                   | 0.18                 |
| 4/17-4/24   | 0.22                  | 0.18                 | 10/30-11/6     | 4.6                   |                      |
| 4/24-5/1    | 0.36                  | 0.17                 | 11/6-11/13     | 1.3                   |                      |
| 5/8-5/15    | 0.10                  | 0.16                 | 11/13-11/20    | 0.41                  |                      |
| 5/15-5/22   | 0.54                  | 0.16                 | 11/20-11/27    | 0.45                  |                      |
| 5/22-5/30   | 0.44                  | 0.11                 | 11/27-12/4     | 0.73                  |                      |
| 5/30-6/5    | 0.25                  | 0.10                 | 12/4-12/11     | 0.54                  |                      |
| 6/5-6/12    | 7.0                   | 0.11                 | 12/11-12/18    | 0.56                  |                      |
| 6/12-6/19   | 1.0                   | 0.11                 | 12/18-12/21    | 0.48                  |                      |
| 6/19-6/26   | 3.1                   | 0.11                 |                |                       |                      |
| 6/26-7/3    | 0.30                  | 0.12                 |                |                       |                      |
| 7/3-7/10    | 0.08                  | 0.12                 | Annual Average | 1.5                   | 0.14                 |

No entry indicates no analysis was made.

## APPENDIX J

TABLE 2

CHEMICALS IN 300 AREA DRINKING WATER  
(CUMULATIVE SAMPLES) - 1972

Units of ppm of Water

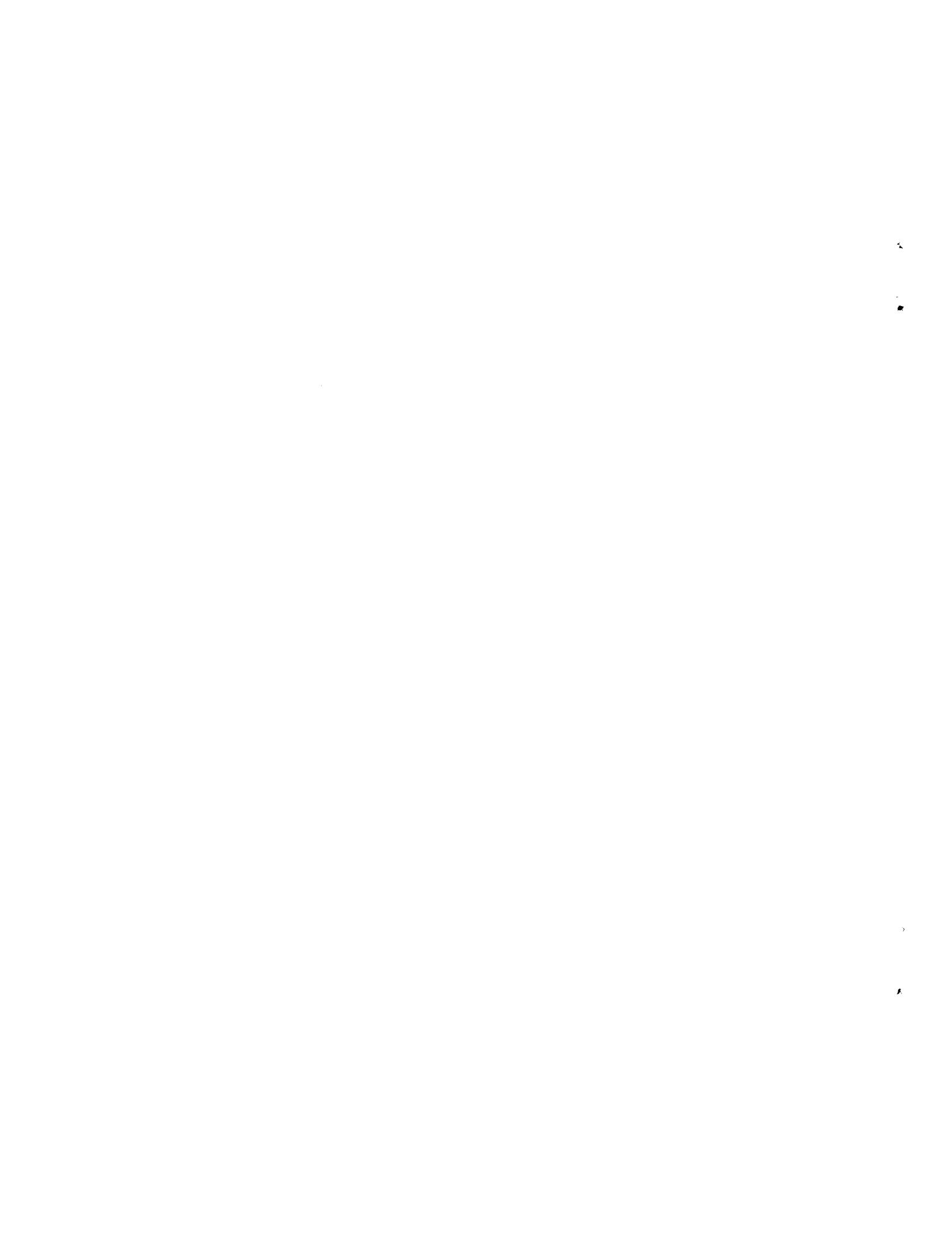
| <u>Date</u> | <u>NO<sub>3</sub></u> | <u>F<sup>-</sup></u> | <u>Date</u> | <u>NO<sub>3</sub></u> | <u>F<sup>-</sup></u> |
|-------------|-----------------------|----------------------|-------------|-----------------------|----------------------|
| 12/27-1/3   | 0.53                  | 0.13                 | 7/3-7/10    | 0.27                  | 0.11                 |
| 1/3-1/10    | 0.83                  | 0.13                 | 7/10-7/17   | 0.33                  | 0.10                 |
| 1/10-1/17   | 0.69                  | 0.14                 | 7/17-7/24   | 0.44                  | 0.10                 |
| 1/17-1/24   | 0.81                  | 0.13                 | 7/24-7/31   | 0.24                  | <0.10                |
| 1/24-1/31   | 0.60                  | 0.14                 | 7/31-8/7    | 0.19                  | 0.11                 |
| 1/31-2/7    | 0.58                  | 0.14                 | 8/7-8/14    | 0.38                  | 0.11                 |
| 2/7-2/14    | 0.50                  | 0.14                 | 8/14-8/21   | 0.58                  | 0.12                 |
| 2/14-2/22   | 0.75                  | 0.16                 | 8/21-8/28   | 0.45                  | <0.10                |
| 2/22-2/28   | 0.61                  | 0.16                 | 8/28-9/4    | 0.39                  | 0.13                 |
| 2/28-3/6    | 0.41                  | 0.14                 | 9/4-9/11    | 0.63                  | 0.12                 |
| 3/6-3/13    | 0.75                  | 0.16                 | 9/18-9/25   | 0.58                  | 0.10                 |
| 3/13-3/20   | 0.91                  | 0.16                 | 9/25-10/2   | 0.45                  | 0.10                 |
| 3/20-3/27   | 0.97                  | 0.17                 | 10/2-10/9   | 0.50                  | 0.12                 |
| 3/27-4/3    | 0.82                  | 0.18                 | 10/9-10/16  | 0.53                  | 0.12                 |
| 4/3-4/10    | 0.59                  | 0.21                 | 10/16-10/23 | 0.54                  | 0.12                 |
| 4/10-4/17   | 0.31                  | 0.18                 | 10/23-10/30 | 0.50                  | 0.13                 |
| 4/17-4/24   | 0.72                  | 0.17                 | 10/30-11/6  | 0.63                  |                      |
| 4/24-5/1    | 0.20                  | 0.17                 | 11/6-11/13  | 0.68                  |                      |
| 5/8-5/15    | 0.06                  | 0.15                 | 11/13-11/20 | 0.61                  |                      |
| 5/15-5/22   | 0.05                  | 0.15                 | 11/20-11/27 | 0.54                  |                      |
| 5/22-5/30   | 0.17                  | <0.10                | 11/27-12/4  | 0.50                  |                      |
| 5/30-6/5    | 0.27                  | <0.10                | 12/4-12/11  | 0.47                  |                      |
| 6/5-6/12    | 0.40                  | <0.10                | 12/11-12/18 | 0.58                  |                      |
| 6/12-6/19   | 0.29                  | <0.10                | 12/18-12/21 | 0.64                  |                      |
| 6/19-6/26   | 0.33                  | <0.10                |             |                       |                      |
| 6/26-7/3    | 0.29                  | <0.10                | Average     | 0.50                  | 0.13                 |

No entry indicates no analysis was made.

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APPENDIX K



## APPENDIX K

TABLE 1

SUSPENDED PARTICULATES IN THE AIR AT RICHLAND  
(CONTINUOUS SAMPLES) - 1972

| <u>Units of <math>\mu\text{g}/\text{m}^3</math> of Air</u> |                               |             |                               |
|--|-------------------------------|-------------|-------------------------------|
| <u>Date</u>  | <u>Suspended Particulates</u> | <u>Date</u> | <u>Suspended Particulates</u> |
| 12/30-1/5  | 44                            | 7/31-8/6    | 150                           |
| 1/5-1/10   | 150                           | 8/6-8/11    | 210                           |
| 1/10-1/14  | 790                           | 8/11-8/17   | 120                           |
| 1/14-1/18  | 600                           | 8/29-9/1    | 190                           |
| 1/18-1/21  | 170                           | 9/1-9/6     | 220                           |
| 1/21-1/27  | 350                           | 9/6-9/11    | 160                           |
| 1/27-2/1   | 82                            | 9/11-9/15   | 200                           |
| 2/1-2/8  | 86                            | 9/15-9/20   | 450                           |
| 2/8-2/11   | 52                            | 9/20-9/25   | 130                           |
| 2/11-2/17  | 490                           | 9/25-9/29   | 97                            |
| 2/17-2/23  | 48                            | 9/29-10/4   | 180                           |
| 2/23-2/28  | 940                           | 10/4-10/9   | 250                           |
| 3/9-3/13   | 59                            | 10/9-10/10  | 280                           |
| 3/13-3/16  | 76                            | 10/10-10/11 | 46                            |
| 3/16-3/21  | 240                           | 10/11-10/12 | 86                            |
| 3/21-3/24  | 97                            | 10/12-10/13 | 95                            |
| 3/24-3/29  | 93                            | 10/13-10/17 | 130                           |
| 3/29-4/3   | 430                           | 10/17-10/20 | 150                           |
| 4/3-4/7  | 440                           | 10/20-10/23 | 110                           |
| 4/10-4/14  | 81                            | 10/23-10/27 | 260                           |
| 4/14-4/18  | 130                           | 10/27-11/1  | 72                            |
| 4/18-4/24  | 220                           | 11/1-11/6   | 39                            |
| 4/24-4/28  | 390                           | 11/6-11/10  | 43                            |
| 4/28-5/2   | 130                           | 11/10-11/15 | 51                            |
| 5/2-5/9  | 140                           | 11/15-11/20 | 55                            |
| 6/6-6/9  | 140                           | 11/20-11/22 | 40                            |
| 6/9-6/14   | 90                            | 11/22-11/27 | 28                            |
| 6/14-6/20  | 130                           | 11/27-12/1  | 70                            |
| 6/20-6/23  | 170                           | 12/1-12/7   | 160                           |
| 6/23-6/28  | 53                            | 12/7-12/12  | 110                           |
| 6/28-7/3   | 130                           | 12/12-12/15 | 67                            |
| 7/3-7/10   | 140                           | 12/20-12/22 | 37                            |
| 7/10-7/14  | 140                           | 12/22-12/27 | 31                            |
| 7/14-7/19  | 160                           | 12/27-1/2   | 93                            |
| 7/19-7/25  | 120                           |             |                               |
| 7/25-7/31  | 140                           | Average     | 174                           |

## APPENDIX K

TABLE 2

NITROGEN IN THE AIR AT THE HOBKIRK RANCH - 1972

Unit of ppm of Air

| <u>Date</u> | <u>No<sub>2</sub> in Air</u> | <u>Date</u> | <u>No<sub>2</sub> in Air</u> | <u>Date</u> | <u>No<sub>2</sub> in Air</u> |
|-------------|------------------------------|-------------|------------------------------|-------------|------------------------------|
| 1/5         | 0.003                        | 7/9         | 0.003                        | 9/19        | 0.003                        |
| 1/6         | 0.004                        | 7/10        | 0.002                        | 9/20        | 0.005                        |
| 1/7         | 0.002                        | 7/11        | 0.004                        | 9/28        | 0.006                        |
| 1/8         | 0.003                        | 7/12        | 0.0008                       | 9/29        | 0.006                        |
| 1/9         | 0.005                        | 7/20        | 0.009                        | 9/30        | 0.006                        |
| 1/10        | 0.003                        | 7/21        | 0.011                        | 10/1        | 0.008                        |
| 3/9         | 0.008                        | 7/22        | 0.008                        | 10/2        | 0.008                        |
| 3/10        | 0.002                        | 7/23        | 0.007                        | 10/3        | 0.004                        |
| 3/11        | 0.003                        | 7/24        | 0.007                        | 10/4        | 0.004                        |
| 3/12        | 0.0009                       | 7/25        | 0.006                        | 10/12       | 0.007                        |
| 3/13        | 0.002                        | 7/26        | 0.006                        | 10/13       | 0.005                        |
| 3/14        | 0.002                        | 8/3         | 0.008                        | 10/14       | 0.006                        |
| 3/15        | <0.0008                      | 8/4         | 0.002                        | 10/15       | 0.010                        |
| 3/23        | 0.034                        | 8/5         | 0.008                        | 10/16       | 0.008                        |
| 3/24        | 0.018                        | 8/6         | 0.010                        | 10/17       | 0.009                        |
| 3/25        | 0.018                        | 8/7         | 0.013                        | 10/18       | 0.007                        |
| 3/26        | 0.012                        | 8/8         | 0.010                        | 11/8        | 0.003                        |
| 3/27        | 0.010                        | 8/9         | 0.010                        | 11/9        | 0.004                        |
| 3/28        | 0.010                        | 8/17        | 0.009                        | 11/10       | 0.003                        |
| 3/29        | 0.004                        | 8/18        | 0.007                        | 11/11       | 0.002                        |
| 4/6         | 0.013                        | 8/19        | 0.007                        | 11/12       | 0.003                        |
| 4/7         | 0.006                        | 8/20        | 0.009                        | 11/13       | 0.002                        |
| 4/8         | 0.019                        | 8/21        | 0.005                        | 11/14       | 0.007                        |
| 4/9         | 0.008                        | 8/22        | 0.006                        | 11/22       | 0.004                        |
| 4/10        | 0.019                        | 8/23        | 0.011                        | 11/23       | 0.004                        |
| 4/11        | 0.011                        | 8/30        | 0.006                        | 11/24       | 0.002                        |
| 4/12        | 0.006                        | 8/31        | 0.006                        | 11/25       | 0.007                        |
| 4/20        | 0.003                        | 9/1         | 0.003                        | 11/26       | 0.003                        |
| 4/21        | 0.002                        | 9/2         | 0.008                        | 11/27       | 0.005                        |
| 4/22        | 0.002                        | 9/3         | 0.006                        | 11/28       | 0.007                        |
| 4/23        | 0.002                        | 9/4         | 0.010                        | 12/27       | 0.0007                       |
| 4/24        | 0.002                        | 9/5         | 0.004                        | 12/28       | 0.004                        |
| 4/25        | 0.002                        | 9/14        | 0.006                        | 12/29       | 0.006                        |
| 4/26        | 0.0006                       | 9/15        | 0.007                        | 12/30       | 0.004                        |
| 7/6         | 0.004                        | 9/16        | 0.006                        | 12/31       | 0.004                        |
| 7/7         | 0.003                        | 9/17        | 0.003                        |             |                              |
| 7/8         | 0.002                        | 9/18        | 0.005                        | Average     | 0.006                        |

## APPENDIX K

TABLE 3

NITROGEN IN THE AIR AT THE GILLIUM RANCH - 1972

| Units of ppm of Air |                              |      |                              |         |                              |
|---------------------|------------------------------|------|------------------------------|---------|------------------------------|
| Date                | <u>NO<sub>2</sub></u> in Air | Date | <u>NO<sub>2</sub></u> in Air | Date    | <u>NO<sub>2</sub></u> in Air |
| 2/23                | 0.004                        | 7/8  | <0.0008                      | 9/18    | 0.006                        |
| 2/24                | 0.002                        | 7/9  | 0.0008                       | 9/19    | 0.002                        |
| 2/25                | 0.003                        | 7/10 | 0.003                        | 9/20    | 0.003                        |
| 2/26                | 0.001                        | 7/11 | 0.003                        | 9/28    | 0.006                        |
| 2/27                | <0.0008                      | 7/12 | 0.006                        | 9/29    | 0.006                        |
| 2/28                | <0.0008                      | 7/20 | 0.008                        | 9/30    | 0.006                        |
| 2/29                | 0.001                        | 7/21 | 0.003                        | 10/1    | 0.006                        |
| 3/9                 | 0.007                        | 7/22 | 0.004                        | 10/2    | 0.005                        |
| 3/10                | 0.014                        | 7/23 | 0.006                        | 10/3    | 0.004                        |
| 3/11                | <0.0008                      | 7/24 | 0.006                        | 10/4    | 0.003                        |
| 3/12                | 0.006                        | 7/25 | 0.006                        | 10/26   | 0.003                        |
| 3/13                | 0.003                        | 7/26 | 0.005                        | 10/27   | 0.002                        |
| 3/14                | 0.003                        | 8/3  | 0.006                        | 10/28   | 0.001                        |
| 3/15                | 0.003                        | 8/4  | 0.010                        | 10/29   | 0.001                        |
| 3/23                | 0.004                        | 8/5  | 0.009                        | 10/30   | 0.003                        |
| 3/24                | 0.012                        | 8/6  | 0.011                        | 10/31   | 0.003                        |
| 3/25                | 0.002                        | 8/7  | 0.012                        | 11/22   | 0.005                        |
| 3/26                | <0.0008                      | 8/8  | 0.011                        | 11/23   | 0.004                        |
| 3/27                | <0.0008                      | 8/9  | 0.010                        | 11/24   | 0.002                        |
| 3/28                | <0.0008                      | 8/17 | 0.009                        | 11/25   | 0.003                        |
| 3/29                | 0.006                        | 8/18 | 0.008                        | 11/26   | 0.002                        |
| 4/6                 | 0.006                        | 8/19 | 0.007                        | 11/27   | 0.003                        |
| 4/7                 | 0.0005                       | 8/20 | 0.009                        | 11/28   | 0.005                        |
| 4/8                 | 0.002                        | 8/21 | 0.004                        | 12/13   | 0.006                        |
| 4/9                 | 0.005                        | 8/22 | 0.001                        | 12/14   | 0.002                        |
| 4/10                | 0.006                        | 8/23 | 0.006                        | 12/15   | 0.003                        |
| 4/11                | 0.004                        | 8/30 | 0.008                        | 12/16   | 0.004                        |
| 4/12                | 0.002                        | 8/31 | 0.004                        | 12/17   | 0.003                        |
| 4/20                | 0.002                        | 9/1  | 0.004                        | 12/18   | 0.003                        |
| 4/21                | 0.004                        | 9/2  | 0.007                        | 12/19   | 0.003                        |
| 4/22                | 0.004                        | 9/3  | 0.007                        | 12/27   | 0.002                        |
| 4/23                | 0.003                        | 9/4  | 0.005                        | 12/28   | 0.002                        |
| 4/24                | 0.007                        | 9/5  | 0.003                        | 12/29   | 0.003                        |
| 4/25                | 0.001                        | 9/14 | 0.005                        | 12/30   | 0.004                        |
| 4/26                | 0.001                        | 9/15 | 0.005                        | 12/31   | 0.002                        |
| 7/6                 | 0.003                        | 9/16 | 0.006                        | Average | 0.004                        |
| 7/7                 | 0.002                        | 9/17 | 0.002                        |         |                              |

## APPENDIX K

TABLE 4  
NITROGEN IN THE AIR AT THE SULLIVAN RANCH - 1972

| Units of ppm of Air |                              |             |                              |             |                              |
|---------------------|------------------------------|-------------|------------------------------|-------------|------------------------------|
| <u>Date</u>         | <u>NO<sub>2</sub> in Air</u> | <u>Date</u> | <u>NO<sub>2</sub> in Air</u> | <u>Date</u> | <u>NO<sub>2</sub> in Air</u> |
| 2/23                | 0.003                        | 7/8         | 0.003                        | 9/18        | 0.003                        |
| 2/24                | 0.004                        | 7/9         | 0.002                        | 9/19        | 0.002                        |
| 2/25                | 0.002                        | 7/10        | 0.004                        | 9/20        | 0.002                        |
| 2/26                | 0.002                        | 7/11        | 0.002                        | 9/28        | 0.004                        |
| 2/27                | 0.002                        | 7/12        | 0.001                        | 9/29        | 0.005                        |
| 2/28                | 0.002                        | 7/20        | 0.004                        | 9/30        | 0.005                        |
| 2/29                | <0.0008                      | 7/21        | 0.008                        | 10/1        | 0.004                        |
| 3/9                 | 0.002                        | 7/22        | 0.006                        | 10/2        | 0.007                        |
| 3/10                | <0.0008                      | 7/23        | 0.005                        | 10/3        | 0.004                        |
| 3/11                | 0.002                        | 7/24        | 0.004                        | 10/4        | 0.003                        |
| 3/12                | 0.004                        | 7/25        | 0.004                        | 10/12       | 0.006                        |
| 3/13                | <0.0008                      | 7/26        | 0.006                        | 10/13       | 0.006                        |
| 3/14                | 0.002                        | 8/3         | 0.010                        | 10/14       | 0.006                        |
| 3/15                | <0.0008                      | 8/4         | 0.010                        | 10/15       | 0.005                        |
| 3/23                | 0.004                        | 8/5         | 0.007                        | 10/16       | 0.009                        |
| 3/24                | 0.004                        | 8/6         | 0.005                        | 10/17       | 0.007                        |
| 3/25                | 0.0008                       | 8/7         | 0.006                        | 10/18       | 0.008                        |
| 3/26                | 0.007                        | 8/8         | 0.009                        | 10/26       | 0.002                        |
| 3/27                | 0.0008                       | 8/9         | 0.009                        | 10/27       | 0.002                        |
| 3/28                | <0.0008                      | 8/17        | 0.006                        | 10/28       | 0.0007                       |
| 3/29                | <0.0008                      | 8/18        | <0.0008                      | 10/29       | 0.002                        |
| 4/6                 | 0.008                        | 8/19        | 0.0009                       | 10/30       | 0.002                        |
| 4/7                 | 0.009                        | 8/20        | 0.004                        | 10/31       | 0.002                        |
| 4/8                 | 0.012                        | 8/21        | 0.001                        | 11/22       | 0.004                        |
| 4/9                 | 0.006                        | 8/22        | 0.003                        | 11/23       | 0.003                        |
| 4/10                | 0.006                        | 8/23        | 0.003                        | 11/24       | 0.001                        |
| 4/11                | 0.007                        | 8/30        | 0.007                        | 11/25       | 0.004                        |
| 4/12                | 0.0005                       | 8/31        | 0.004                        | 11/26       | 0.001                        |
| 4/20                | 0.003                        | 9/1         | 0.011                        | 11/27       | 0.019                        |
| 4/21                | 0.003                        | 9/2         | 0.006                        | 11/28       | 0.007                        |
| 4/22                | 0.002                        | 9/3         | 0.005                        | 12/27       | 0.003                        |
| 4/23                | 0.002                        | 9/4         | 0.007                        | 12/28       | 0.001                        |
| 4/24                | 0.002                        | 9/5         | 0.007                        | 12/29       | 0.004                        |
| 4/25                | 0.001                        | 9/14        | 0.005                        | 12/30       | 0.004                        |
| 4/26                | 0.002                        | 9/15        | 0.006                        | 12/31       | 0.002                        |
| 7/6                 | 0.008                        | 9/16        | 0.002                        | Average     | 0.004                        |
| 7/7                 | 0.004                        | 9/17        | 0.002                        |             |                              |

## APPENDIX K

TABLE 5

NITROGEN IN THE AIR AT THE KEYS RANCH - 1972

Units of ppm of Air

| <u>Date</u> | <u>NO<sub>2</sub> in Air</u> | <u>Date</u> | <u>NO<sub>2</sub> in Air</u> | <u>Date</u> | <u>NO<sub>2</sub> in Air</u> |
|-------------|------------------------------|-------------|------------------------------|-------------|------------------------------|
| 1/5         | 0.005                        | 4/20        | 0.003                        | 9/14        | 0.007                        |
| 1/6         | 0.004                        | 4/21        | 0.003                        | 9/15        | 0.010                        |
| 1/7         | 0.003                        | 4/22        | 0.004                        | 9/16        | 0.005                        |
| 1/8         | 0.002                        | 4/23        | 0.002                        | 9/17        | 0.003                        |
| 1/9         | 0.004                        | 4/24        | 0.005                        | 9/18        | 0.005                        |
| 1/10        | 0.002                        | 4/25        | 0.002                        | 9/19        | 0.005                        |
| 1/11        | 0.004                        | 4/26        | 0.002                        | 9/20        | 0.005                        |
| 1/19        | 0.003                        | 7/6         | 0.005                        | 9/28        | 0.003                        |
| 1/20        | 0.005                        | 7/7         | 0.001                        | 9/29        | 0.005                        |
| 1/21        | 0.004                        | 7/8         | 0.003                        | 9/30        | 0.005                        |
| 1/22        | 0.005                        | 7/9         | 0.006                        | 10/1        | 0.005                        |
| 1/23        | 0.002                        | 7/10        | 0.005                        | 10/2        | 0.006                        |
| 1/24        | 0.004                        | 7/11        | 0.003                        | 10/3        | 0.005                        |
| 1/25        | 0.003                        | 7/12        | 0.004                        | 10/4        | 0.009                        |
| 2/23        | 0.003                        | 7/20        | 0.006                        | 11/8        | 0.003                        |
| 2/24        | 0.004                        | 7/21        | 0.006                        | 11/9        | 0.002                        |
| 2/25        | 0.002                        | 7/22        | 0.006                        | 11/10       | 0.001                        |
| 2/26        | 0.002                        | 7/23        | 0.006                        | 11/11       | 0.004                        |
| 2/27        | 0.002                        | 7/24        | 0.003                        | 11/12       | 0.003                        |
| 2/28        | 0.002                        | 7/25        | 0.005                        | 11/13       | 0.001                        |
| 2/29        | 0.001                        | 7/26        | 0.007                        | 11/14       | 0.003                        |
| 3/9         | 0.004                        | 8/3         | 0.008                        | 12/13       | 0.005                        |
| 3/10        | <0.0008                      | 8/4         | 0.005                        | 12/14       | 0.004                        |
| 3/11        | <0.0008                      | 8/5         | 0.003                        | 12/15       | 0.005                        |
| 3/12        | 0.004                        | 8/6         | 0.002                        | 12/16       | 0.004                        |
| 3/13        | 0.002                        | 8/7         | 0.010                        | 12/17       | 0.003                        |
| 3/14        | 0.001                        | 8/8         | 0.003                        | 12/18       | 0.003                        |
| 3/15        | 0.002                        | 8/9         | 0.007                        | 12/19       | 0.003                        |
| 3/23        | 0.010                        | 8/17        | 0.004                        | 12/27       | 0.003                        |
| 3/24        | 0.005                        | 8/18        | 0.006                        | 12/28       | 0.003                        |
| 3/25        | <0.0008                      | 8/19        | 0.004                        | 12/29       | 0.004                        |
| 3/26        | <0.0008                      | 8/20        | 0.006                        | 12/30       | 0.005                        |
| 3/27        | <0.0008                      | 8/21        | 0.006                        | 12/31       | 0.003                        |
| 3/28        | 0.004                        | 8/22        | 0.006                        |             |                              |
| 3/29        | 0.004                        | 8/23        | 0.005                        | Average     | 0.004                        |

APPENDIX K

TABLE 6

NITROGEN IN THE AIR AT THE MC LANE RANCH - 1972

Units of ppm of Air

| <u>Date</u> | <u>NO<sub>2</sub> in Air</u> |
|-------------|------------------------------|
| 3/9         | <0.0008                      |
| 3/10        | <0.0008                      |
| 3/11        | 0.002                        |
| 3/12        | <0.0008                      |
| 3/13        | <0.0008                      |
| 3/14        | <0.0008                      |
| 3/15        | 0.0009                       |
| 4/6         | 0.009                        |
| 4/7         | 0.007                        |
| 4/8         | 0.007                        |
| 4/9         | 0.014                        |
| 4/10        | 0.006                        |
| 4/11        | 0.011                        |
| 4/12        | 0.006                        |
| 4/20        | 0.003                        |
| 4/21        | 0.004                        |
| 4/22        | 0.002                        |
| 4/23        | 0.002                        |
| 4/24        | 0.002                        |
| 4/25        | 0.002                        |
| 4/26        | 0.001                        |
| Average     | 0.004                        |

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